AN0102279

UR 9024

TITLE-- OXIDATION-RESISTANT CONCRETE

NEWSPAPER-- STROITEL, NAYA GAZETA, JUNE 5, 1970, P 4, COL 1

ABSTRACT-- INVENTORS K. NEKRASOV AND A. TARASOVA PROPOSED A NEW COMPOSITION FOR WATER GLASS BASED CONCRETE WITH NEPHELITE SLURRY. THIS CONCRETE IS INERT TO SULFUR-CONTAINING GASES, DOES NOT LOSE ITS STRENGTH AFTER EXPOSURE TO HIGH TEMPERATURES, AND CAN BE USED AT TEMPERATURES UP TO 1000 DEGREES C.

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19860219

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UDC 8.74

TARASOVA, A. A.

"Algorithms and Programs for Solving Some Finite Difference Equations on the PROMIN'-M Computer"

V sb. Vopr. vodn. kh-va (Problems of Water Conservation -- collection of works), vyp. 19, Frunze, Kyrgyzstan Press, 1972, pp 19-103 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V607)

Translation: A description is presented for the algorithms and programs of the PROMIN'-M computer for solving the following water balance problems using finite-difference equations: 1) calculation of the elements of the groundwater balance with uniform structure of the water-bearing beds (for incomplete thickness revealed by wells; 2) calculation of the elements of the groundwater balance with two-layer structure of the aquifers and the presence of inflow from below (or outflow to the lower horizons). The bibliography has 11 entries.

1/1

USSR

UDC 620.197.6:621.791.763-1

PORTNOY, N. D., and GEYNRIKHSDORF, N. G., Candidates of Technical Sciences, GAFAROV, N. T., NOVIKOVA, Ye. Z. (Ural Railroad Car Plant), TARASOVA, A. A., and KARPECHENKOVA, G. M. (Ural Scientific Research Institute of Ferrous Metallurgy), Engineers

"Characteristics of Certain Protective Coatings Used in Point Resistance Welding"

Moscow, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 43-45

Abstract: A study was made of the effect of impact strength, film elasticity, covering power, and electrical conductivity of corrosion-resistant coatings based on various lacquers on joint quality during welding of type-09G2 steel. Fifteen percent aluminum powder was added to two of the lacquers in order to increase electrical conductivity. With coatings based on lacquers 170 and LSP-1 welding can be done for six days after application. The quality of welded joints covered with composition 119 is decreased if welding is performed more than two days after application of the coating. Oil-base paints are compatible with coatings based on composition 119 and 170 lacquer, but do not dry in the established time when painted over LSP-1 lacquer. Coatings based on 170 lacquer have the

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PORTNOY, N. D., et al, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 43-45

greatest impact strength. The impact strength of coatings based on LSP-1 lacquer decreases as the temperature increases to 70°C. Such properties of coatings as elasticity, covering power, hardness, heat resistance, and drying time fall within the established norms set by the standards. When parts are painted with LSP-1 varnish and composition 119, the content of xylene in the working area somewhat exceeds the safety norm. When 170 varnish is used, the content of harmful substances falls within the safety norms. The best technological and mechanical properties are provided by corrosion-resistant, low-toxicity coatings based on 170 varnish.

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1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF THE THICKNESS OF A FILM OF ACTIVE COMPONENT ON THE ACTIVITY OF VANADIUM CATALYSTS IN THE OXIDATION OF SULFUR DIOXIDE -U-

AUTHOR-(04)-BORESKOV, G.K., DZISKO, V.A., TARASOVA, D.V., BALAGANSKAYA, G.P.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(1), 181-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST, SULFUR OXIDE, VANADIUM, CATALYTIC OXIDATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1459

STEP NO--UR/0195/70/011/001/0181/0186

CIRC ACCESSION NO--AP0120246

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120246

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OXIDN. OF SO SUB2 ON V CATALYSTS TAKES PLACE WITHIN THE FILM OF ACTIVE LIQ. CATALYST COMPONENT, CONTG. V SUB2 O SUB2 TIMES NK SUB2 O TIMES MSO SUB3 WHERE N EQUALS 2-4 AND M DEPENDS ON REACTION CONDITIONS AND ON THE N VALUE. THE THICKNESS OF THE ACTIVE CATALYST FILM AT WHICH THE OXIDN. GOES TO COMPLETION DEPENDS ON THE REACTION TEMP. AND THE COMPN. OF THE REACTION MIXT. AT LOWER TEMPS., THE CRIT. THICKNESS OF THE FILM DECREASES AND AT HIGHER TEMP. IT INCREASES. AT 420DEGREES, INCREASE OF CATALYTIC ACTIVITY WITH INCREASING K SUB2 O-V SUB2 O SUB5 MOLE RATIO OCCURS DUE TO AN INHIBITION OF SOLID PHASE CRYSTN. IN THE PRESENCE OF AN EXCESS OF K SUB2 O. IN ADDN. TO THIS, AT LOWER TEMP., REDN. OF V SUB2 O SUB5 TAKES PLACE TO A LESSER DEGREE. MAX. FILM THICKNESSES FOR REACTIONS AT 485 AND 420DEGREES ARE GIVEN. FACILITY: INST. KATAL., NOVOSIBIRSK, USSR.

UNCLASSIFIED

TARASOVA, I.P.

Control System (Maritime Trans)

GLORIA

SO: JPRS 55352
6 MARCH 1972

PROBLEMS OF PLANNING IN AN AUTOMATED CONTROL SYSTEM FOR MARITIME TRANSPORTATION

[Article by Ye. N. Voyevudskiy, E. P. Gromova, Z. D. Levyy, G. S. Makhurenko, N. F. Serdyuk, I. P. Tarasova; Moscow, V [illegible] upravleniya, Moscow, 1971, Referaty Dokladov, Russian, Part I, 1971, pp 93-95]

The results of studying the characteristics of the maritime transport economic system are discussed in this paper. The specifics of this system as a planning object are demonstrated, and the basic requirements on the creation of the planning subsystem of the Morflot [Maritime Fleet] Automatic Control System are formulated.

This has permitted establishment of the theoretical principles of functioning of optimal planning and the creation of a procedural base for the development of a set of models, algorithms and planning calculation procedures.

In the most general statement, the planning problem is formulated as finding the most advantageous law of motion of the economic system in a region of the phase space defined by the given resources.

It is proposed that the planning problem in the general statement be studied by means of a model of the space conducting the excitation in order to simulate the behavior of the economic system.

The report contains a description of the models and algorithms of calendar planning of the fleet operation. The general problems of calendar planning are studied, and some new ideas of its improvement are advanced, in particular, on the basis of adaptive automata. The methods of simulating calendar plans and optimization of them are investigated.

A set of algorithms and programs for calculating the calendar schedule of operation of the fleet on a computer is described. It comprises three parts:

Processing the requests for freight transport operations and formation of all possible sections of future schemes for movement of the ships;

Formation of all possible movement schemes for each ship;

USSR

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Electrochemistry

UDC 621.357.13.035.2:661.879.1.22

PUZAKOV, V. V., BARABOSHKIN, A. N., and KALIYEV, K. A., and TARASOVA, K. P.

"Mechanism for the Growth Hemispherical Precipitates of Uranium Dioxide on the End of the Electrode"

Tr. In-ta elektrokhimii. Ural'sk. nauch. tsentr AN SSSR (Works of the Institute of Electrochemistry. Ural Scientific Center, Academy of Sciences, USSR), Vyp 18, 1972, pp 99-105 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L346 V. V. Grinina)

Translation: The hypothesis mentioned earlier that hemispherical shape of precipitates of UO_2 formed on the ends of Pt microcathode in LiCl-KCl-UO_2-Cl_2 melt at 400° was caused by a particular relationship of the specific electrical resistance of the cathode, the precipitate, and the melt. The specific and effective electrical resistances of the melt and the electrolytic UO_2 were compared as were the calculated and experimental forms of the precipitate on the end of the cathode. Measurements by electrical conductivity were carried out in an atmosphere of argon by the contact method, using a bridge to carry a current having a frequency of 5000 Hz from room temperature to 600°. The electrical conductivity of UO_2 was measured directly in the melt,

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PUZAKOV, V. V., et al., Tr. In-ta elektrokhimii. Ural'sk. nauch. tsentr AN SSSR, Vyp 18, 1972, pp 99-105

during the growth of the precipitate. A timed potentiometric method was used in the calculation of the electrical conductivity of the alloy to determine the diffusion coefficients of the uranyl ion in the pectic mixture LiCl-KCl. It was shown that the specific electrical conductivity of UO_2 was half an order of magnitude smaller than the effective electrical conductivity and two orders of magnitude smaller than the specific electrical conductivity of the melt. The theoretically calculated value of the form of the precipitate was close to that observed experimenally. The precipitate had a hemispherical form.

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USSR

UDC 621.357.13:669.26

TARASOVA, K. P., BARABOSHKIN, A. N., and NAZROV, V. A.

"Obtaining Chrome Films by Electrolysis of Chloride Melts. III. The Influence of the Cathode Composition and Temperature on the Structure of the Deposits"

Tr. In-ta elektrokhimii, Ural'sk. nauch. tsentr AM SSR (Works of the Institute of Electrochemistry. Ual Scientfic Center, Academy of Sciences USSR), Vyp 18, 1972, pp 94-98 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L345 by V. V. Grinina)

Translation: A study was made of the change in the structure of chrome films during the change in temperature and the cathode composition of the melt solvent. The melts studied were composed of alkali chlorides at a temperature of 800°, containing 2 mole % $CrCl_2$ at a D_k of 0.05 amps/cm^2. Compact films were obtained having a columnar structure and the coarseness of the crystals decreased in the order LiCl-NaCl-KCl-CsCl. During the precipitation of Cr from the melt 3LiCl-2KCl-$CrCl_2$, the coarseness of the grain increased with an increase in the temperature from 400 to 800°. At the lower temperatures the adhesion of the film to the base was reduced and it was evident that there was no alloy formation between the Cr and metals of the base.

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USSR

UDC 621.357.7:669.268

TARASOVA, K. P., BARABOSHKIN, A. N., MARTEM'YANOVA, Z. S.

"Influence of Complex Formation on the Structure of Chromium Sediments"

Tr. In-ta Elektrokhimii. Ural'sk. Nauch. Tsentr. AN SSSR [Works of the Institute of Electrochemistry, Ural's Scientific Center, Acad. Sci. USSR], No 17, 1971, pp 118-123 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 L312 by V. V. Grinina).

Translation: The influence of the F ion on the structure of Cr sediments produced by electrolysis of chloride-fluoride and fluoride melts was studied. Increasing the F/Cr ratio to 10 caused a decrease in grain size in the sediment. Further increases in fluoride concentration in the electrolyte had no significant influence on crystal size. Compact sediments, well bonded to bases of Cu, Ni, Mo, Nb, alloys VN-2 and VN-3 were produced at temperatures of 700-900° and D = 0.01-0.1 a/cm^2 in melts containing 5-20 wt.% K hexafluorochromate (K_3CrF_6). As the content of the F ion in the melt increased, the grain of the sediment was primarily oriented with the <100> direction perpendicular to the plane of the substrate. The quality of the texture increased as sediment thickness increased.

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1/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PASSIVATION OF CATHODIC PRECIPITATES OF URANIUM DIOXIDE IN CHLORIDE MELTS -U-

AUTHOR-(03)-BARABOSHKIN, A.N., KALIYEV, K.A., TARASOVA, K.P.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(1), 146-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MOLTEN CHLORIDE, ELECTRODE PROPERTY, CHLORIDE ELECTROLYSIS, METAL PASSIVATION, OXIDE FILM, URANIUM OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0766 STEP NO--UR/0364/70/006/001/0146/0149

CIRC ACCESSION NO--AP0104212

UNCLASSIFIED

2/2 017 UNCLASSIFIED

CIRC ACCESSION NO--AP0104212 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PASSIVATION IS CAUSED BY EXCESS O IN THE UO SUB2 PPT. DURING ANODIC DISSOLN. OF THE DIOXIDE, IONS OF UO SUB2 PRIME POSITIVE POSITIVE GO INTO THE MELT AND THE SURFACE OF THE ANODE BECOMES ENRICHED IN O FORMING U OXIDES ALL THE WAY UP TO U SUB3 O SUB8. THE PASSIVATION PROCESS PROCEEDS WHETHER THE CURRENT IS APPLIED OR NOT, THE ULTIMATE RESULT BEING URANOUS URANIC OXIDE REMAINING ON THE SURFACE OF THE ANODE. IT IS JUSTIFIABLE TO CONCLUDE THAT PASSIVATION RESULTS FROM THE SHIELDING OF UO SUB2 BY U SUB3 O SUB2.

UNCLASSIFIED

USSR

UDC 542.49:546.791.3'131

TARASOVA, L. A., RACHEV, V. V., and PAVLOVA-VEREVKINA, A. I.

"Purification of Uranium Trichloride by Vacuum Sublimation"

Moscow, Radiokhimiya, Vol 12, No 2, 1970, pp 405-407

Abstract: A study was made of the possibility of more efficient sublimation in purification of UCl_3. UCl_3 sublimation experiments were conducted on special equipment in the 750-950° range. A stable vacuum was maintained at 10^{-6}-10^{-5} torr. Sublimation apparatus material was quartz. Quartz, molybdenum, tantalum, or their combinations were tested for the vaporization part of the apparatus. A table listed effect of various factors on yield of UCl_3 in vacuum sublimation: sublimation temperature, impurity (UO_2 and UOCl) content, material of vaporization assembly, amount of loaded UCl_3. Tabled data revealed that the yield of UCl_3 in sublimation is determined by the material of the vaporization assembly and by observance of measures to prevent interaction of the trichloride with components of the air entering the system due to adsorption on the preparations and apparatus assemblies in preparatory stages. When these precautions are taken and when molybdenum or tantalum is used for the vaporization assembly, the UCl_3 yield reaches 50%, and in some cases 70% of the amount loaded into the apparatus.

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172 055 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PHASE TRANSFORMATIONS OF TITANIUM AND ZIRCONIUM IN SHOCK WAVES -U-

AUTHOR-(04)-GERMAN, V.N., BAKANOVA, A.A., TARASOVA, L.A., SUTULOV, YU.N.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(2) 637-89

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--ALLOY PHASE TRANSFORMATION, TITANIUM, ZIRCONIUM, SHOCK WAVE, X RAY DIFFRACTION, HIGH PRESSURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0137 STEP NO--UR/0181/70/012/002/0637/0639

CIRC ACCESSION NO--AP0054933

UNCLASSIFIED

2/2 055 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054933

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TI AND ZR SPECIMENS WERE INVESTIGATED AFTER A BRIEF IMPULSE LOADING WITH THE AID OF SHOCK WAVES OF AMPLITUDE 120, 200, 350, AND 500 KILOBARS. AFTER SHOCK TREATMENT, THE SPECIMENS WERE ANALYZED BY X RAY DIFFRACTION. IN ALL ZR SPECIMENS AT ALL AMPLITUDES OF SHOCK PRESSURE, LINES OF A NEW PHASE WERE OBSD. THE MAX. AMT. OF THE NEW PHASE, EXCEEDING THE AMT. OF INITIAL PHASE, WAS OBTAINED AT A PRESSURE OF 350 KILOBARS. THE NEW PHASE IS BCC. WITH ALPHA EQUALS 3.568 ANGSTROM AND D. EQUALS 6.656. FOR TI, THE NEW PHASE WAS OBTAINED AT A PRESSURE OF 350 KILOBARS. IT IS CUBIC WITH ALPHA EQUALS 3.27 ANGSTROM.

UNCLASSIFIED

USSR

UDC: 69.058.5

RUPPENEYT, K. V., DENISOV, V. N., TARASOVA, I. V., GOLUBEV, A. V., Scientific Research Institute of Foundations and Subterranean Structures

"A Method of Studying Rock Masses and Liners of Subterranean Structures"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329417, Division G, filed 26 Jun 70, published 9 Feb 72, p 163

Translation: This Author's Certificate introduces a method of studying rock masses and liners of subterranean structures by measuring stresses in a drilled shaft. As a distinguishing feature of the patent, accuracy is improved by returning the rock mass to its initial position after measuring the stresses in the drilled shaft, using pickups to register the pressure in the rock mass.

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UDC 616.98:578.5)-092.9-097

DREZYIN, R. S., VYSHNEVETSKAYA, L. O., BAGDAMYAN, YE. YE., YANKEVICH, O. D., TARASOVA, L. B., and KLEMOVA, A. V., Institute of Virology Virusologii, No 6, Nov/Dec 71, pp 670-676

Abstract: Cotton rats aged 1½-2 weeks were experimentally infected with the Long strain of RS virus through intranasal inoculation, and the progress of the disease was investigated with three methods, yielding corresponding results. The virus and the specific antigen (anti-RS FITC-globulin of rabbits) were detected 24 hours after inoculation. The intensity of fluorescence, the precentage of cells containing the antigen, and the virus titer in the epithelium of the nose, trachea, bronchi, and alveoli reached a maximum in 3 to 5 days, at which time maximum pathomorphological changes were also observed in the epithelium of the trachea, bronchi, and bronchioles. The intensity of the infectious process declined on the 7th day, and neither the specific antigen, nor the virus, nor the pathomorphological changes in the epithelium of the respiratory pathways were found on the 14th day.

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USSR

UDC 661.143.546.641(088.8)

TOROPOV, N. A., SOKOLOV, A. N., KOLPAKOVA, A. A., TARASOVA, L. YE., Leningrad Technological Institute imeni the Lensovet

"A Method of Synthesizing Quick-Response Cathodoluminescent and Photoluminescent Phosphors"

USSR Author's Certificate No 243758, filed 2 Jun 67, published 14 Dec 71 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11L234 P)

Translation: This Author's Certificate introduces a method of synthesizing quick-response cathodoluminescent and photoluminescent phosphors based on lanthanide-activated yttrium compounds by mixing the components of the charge with subsequent sintering. In order to expand the variety of quick-response phosphor compositions with elevated chemical stability and high resistance to electron bombardment, a yttrium silicate is used as the yttrium compound with a Y_2O_3:SiO_2 ratio of 1:1-3, and the lanthanide is added in a concentration of 0.5-4 wt.%. Example. The initial raw materials for synthesizing the compositions are: Y_2O_3 containing 99.99% of the base substance (MTU No 1185-64); phosphor grade SiO_2; oxides of the lanthanide series CeO_2, Sm_2O_3, EuO, Pr_6O_{11}, Er_2O_3, Tm_2O_3, etc. or their mixtures. A charge containing 65.2 wt% Y_2O_3 and

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TOROPOV, N. A., et al., USSR Author's Certificate No 243758, filed 2 Jun 67, published 14 Dec 71 (from Khim-khimiya, No 11, Jun 72, Abstract No 11L234 P)

34.8 wt% silica preintered at temperatures of 1100°C and 800°C respectively is thoroughly mixed and briquetted with subsequent annealing at 1360°C isothermal holding at this temperature for 4 hours. The specimens are slowly cooled and pulverized, and then the oxides of the lanthanide series are added. Briquetted specimens are again annealed with isothermal holding at 1350°C for 2.5 hours. The resultant phosphor, e.g. (1.5 wt. %) cerium activated $Y_2O_3 \cdot 2SiO_2$, has blue luminescence with λ_{max} of 410 nm, an emission brightness equal to 140% of that of the industrial phosphor grade A-1 (Al_2O_3-CeO), and afterglow of the order of 10^{-6} s for a drop in brightness to 5%. N. Sh.

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USSR

UDC 621.317.761(088.8)

NALBANDOVA, Z. A., TARASOVA, M. M., FABRIK, M. A.

"Frequency Meter"

USSR Author's Certificate No 251029, Filed 20 Aug 66, Published 11 Feb 70 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A385 P)

Translation: This author's certificate introduces a frequency meter containing a pulse counter connected via a switch to the inputs of the standard and measured frequency meter. The frequency meter is distinguished by the fact that uniqueness of the reading is insured in it with a multiple ratio of the standard and measured frequencies. For this purpose, a frequency divider is included between the input of the measured frequency meter and the switching device. An auxiliary pulse counter with a capacitance equal to the division coefficient of the frequency divider is connected to the input of the pulse counter. Before the measurement, the auxiliary pulse counter is set to a number equal to half of its capacity.

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USSR

UDC 547.26'118

TARASOVA, R. I., KISLITSYNA, R. M., and PUDOVIK, A. N.

"Reaction of the Isocyanate of Diethylphosphorus Acid With Aldehydes"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1972-1976

Abstract: The reaction of diethylphosphorus acid isocyanate with benzaldehyde, p-chloro- and p-bromobenzaldehyde yields crystalline cyclic diethoxyalkylphosphazo carbonates and polymeric 1:1 adducts; the latter are formed on heating the cyclic diethoxybromobenzylphosphazo carbonate to its melting point. Analysis of the reaction products reveals two ethoxy groups. The IR spectra of the reaction products of diethylphosphorus acid isocyanate with p-bromobenzaldehyde show absorption at 1350 cm^{-5} for P=N and absorption at 1710-1720 cm^{-1} for the group C=O. Reactions with anisaldehydes and other aldehydes yielded oily products consisting of two fractions. According to analytical data, both fractions could be the addition products of diethylphosphorus acids isocyanates and aldehydes in a 1:1 ratio. Both have identical IR spectra, which greatly differ from those of crystalline 1:1 adducts. The IR spectra of the oils show absorption at 1260-1265 (P=O), at 1735-1746 (C=O) and 3200-3400 cm^{-1} (NH).

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USSR

UDC 547.26.118.07

CHEKHOVSKIKH, M. I., TARASOVA, R. I., and ABRAMOV, V. S.

"A Method of Synthesizing Ethyl Ether of β-Aminoethylphosphoric Acid"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 14, 1970, Author's Certificate No 268422, filed 22 Jul 68, p 24

Abstract: This Author's Certificate introduces: 1. A method of synthesizing ethyl ether of β-aminoethylphosphoric acid. As a distinguishing feature of the method, the process is simplified by interacting 0,0-diethyl-o, β-chloroethyl phosphate with ammonia in an autoclave with the application of heat. 2. The method described in (1) is distinguished by the fact that the temperature reaches 65-70°C.

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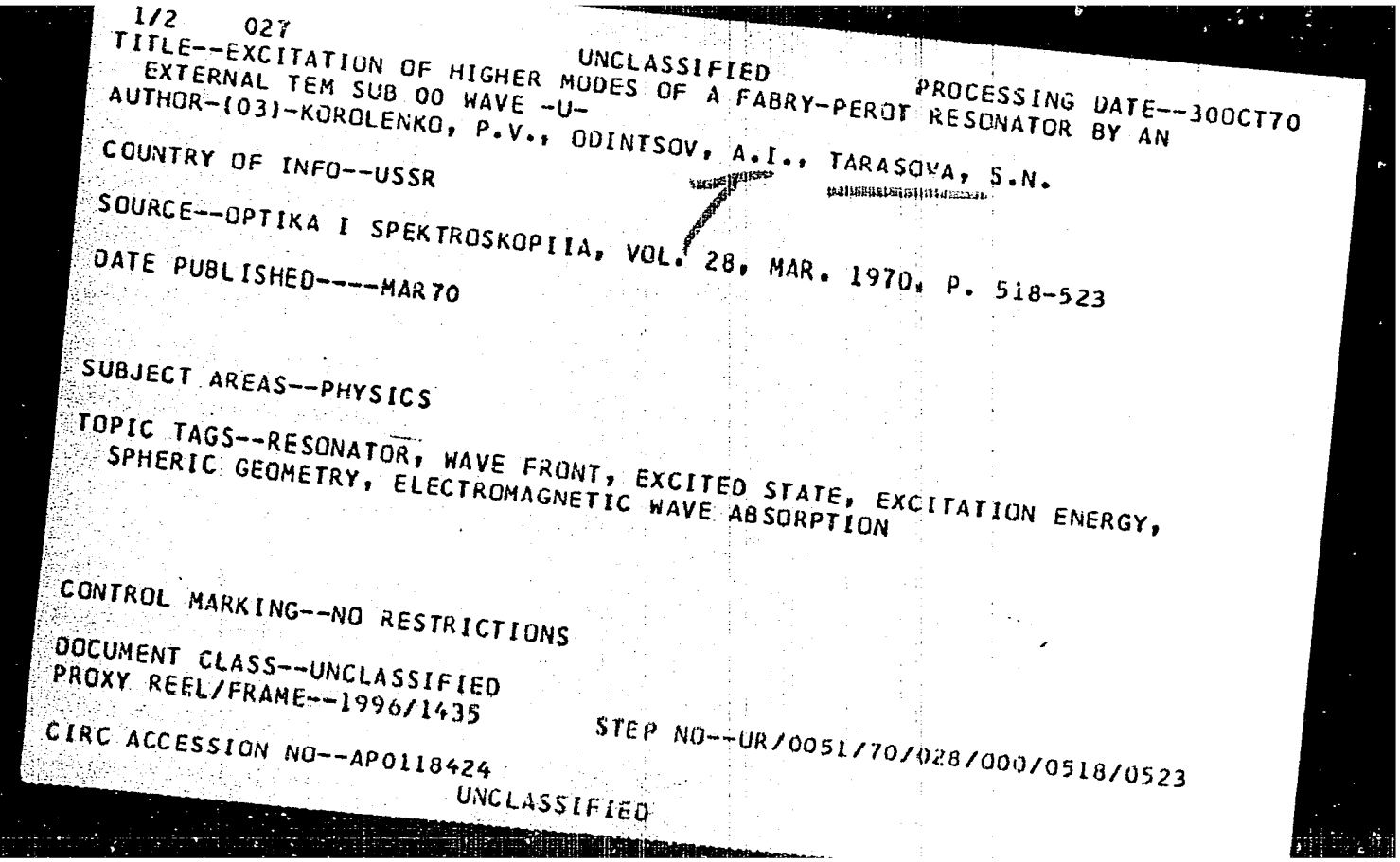

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EXCITATION OF HIGHER MODES OF A FABRY-PEROT RESONATOR BY AN EXTERNAL TEM SUB 00 WAVE -U-

AUTHOR-(03)-KOROLENKO, P.V., ODINTSOV, A.I., TARASOVA, S.N.

COUNTRY OF INFO--USSR

SOURCE--OPTIKA I SPEKTROSKOPIIA, VOL. 28, MAR. 1970, P. 518-523

DATE PUBLISHED----MAR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--RESONATOR, WAVE FRONT, EXCITED STATE, EXCITATION ENERGY, SPHERIC GEOMETRY, ELECTROMAGNETIC WAVE ABSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1435 STEP NO--UR/0051/70/028/000/0518/0523

CIRC ACCESSION NO--AP0118424

UNCLASSIFIED

2/2 027 UNCLASSIFIED

CIRC ACCESSION NO--AP0118424 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL MEASUREMENT OF THE CONVERSION COEFFICIENTS CHARACTERIZING THE EXCITATION OF HIGHER MODES OF A FABRY-PEROT RESONATOR BY AN EXTERNAL TEM SUB 00 WAVE. IT IS SHOWN THAT IN THE PRESENCE OF A MISMATCH BETWEEN THE RADIUS OF CURVATURE OF THE WAVEFRONT AND THE BEAM DIAMETER IN A SPHERICAL FABRY-PEROT RESONATOR EXCITED BY AN EXTERNAL TEM SUB 00 WAVE EXCITATION OF HIGHER TEM SUB PO MODES WITH SPHERICAL GEOMETRY IS OBSERVED. IF THE MISMATCH IS CAUSED BY A DISTURBANCE OF THE COAXIALITY WITH THE INCIDENT BEAM, HIGHER TEM SUB MO MODES WITH RECTANGULAR GEOMETRY ARE EXCITED. FOR EACH MODE THERE IS A SPECIFIC OPTIMAL DEGREE OF MISMATCH, AT WHICH ITS INTENSITY REACHES A MAXIMUM. THE OPTIMAL DEGREE OF MISMATCH INCREASES WITH AN INCREASE IN THE MODE INDEX.

UNCLASSIFIED

USSR

UDC 622.7-2-15

TARASOVA, T. B., TOMIN, V. S., and KORZILOVA, A. P.

"Study of Finishing Coarse Auriferous Concentrate of the Kommunar Rudnik Plant"

Moscow, Tsvetnyye Metally, No 2, Feb 70, pp 79-81

Abstract: This article contains a discussion of research performed to improve the gold recovery from the coarse auriferous concentrate of the Kommunar Rudnik Plant. The mean gold content in the coarse concentrate was 138 grams/ton. It was determined by analysis that 96-98% of the gold was in the form of free grains, 39% of which were concentrated in the 0.21 + 0.15 mm fraction. About 80% of the gold was in the 0.5 mm fraction. The mineral composition and large amount of free gold are favorable for recovering the gold by amalgamation and finishing the concentrate by gravitation and electrical methods. Various finishing procedures are described, but it is concluded that in recovering gold from the coarse concentrate directly by amalgamation by using any of the investigated versions, the results are practically identical. However, after finishing the concentrate by gravitation or electrical methods, the amount of material going to amalgamation is reduced by 18-15 times. The gravitation method is considered the more efficient of the two finishing procedures since it is simple and insures higher gold concentration.

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1/2 011 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--REFINING OF A COARSE GOLD CONTAINING CONCENTRATE AT A CONCENTRATION MILL OF THE KOMMUNAROVSKII MINE -U-

AUTHOR-(03)-TARASOVA, T.B., TOMIN, V.S., KORZILOVA, A.P.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(2), 79-81

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GOLD, AMALGAM, METAL REFINING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0740 STEP NO--UR/0136/70/043/002/0079/0081

CIRC ACCESSION NO--AP0107282

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107282

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AV. AU CONTENT IN THE COARSE CONC. STUDIED WAS 138 G-TON. SOME 96-8PERCENT OF THE AU IS REPRESENTED AS FREE PARTICLES, 39PERCENT OF WHICH ARE MINUS 0.21 PLUS 0.15 MM. THE AU IS IN THE FORM OF PLATELETLIKE OR IRREGULAR PARTICLES. MOST OF THE PARTICLES HAVE PITTED SURFACES WITH THE DEPRESSIONS FILLED WITH VERY FINE QUARTZ PARTICLES. APPROX. 80PERCENT OF THE AU IS PRESENT IN THE MINUS 0.5 MM FRACTION. THE MINERAL COMPN. AND THE LARGE AMT. OF FREE AU WERE FAVORABLE FOR EXTN. OF AU BY AMALGAMATION AND REFINING OF THE CONC. BY GRAVITY AND ELECTROSTATIC METHODS. APPROX. 95.8PERCENT OF THE AU CAN BE EXTD. BY AMALGAMATION. PRIOR HEAT TREATMENT OF THE CONC. DOES NOT INCREASE THE EFFECTIVENESS OF THE AMALGAMATION OF AU. A PRODUCT CONTG. 1300-2500 G AU-TON CAN BE CONTAINED BY ELECTROSTATIC SEPN. OF THE CONC. GROUND TO 0.3-0.21 MM. THE EXTN. OF AU FROM THE ROUGH CONC. DIRECTLY BY AMALGAMATION, WITH REFINING OF THE CONC. ACCORDING TO EITHER OF THE TWO METHODS IS PRACTICALLY THE SAME. HOWEVER, AFTER REFINING THE CONC. BY THE GRAVITY OR THE ELECTROSTATIC METHOD, THE AMT. OF MATERIAL ENTERING THE AMALGAMATION PROCESS IS DECREASED BY 15-18 TIMES. THE GRAVITY METHOD IS MORE EFFICIENT, SINCE IT IS SIMPLE AND PRODUCES A HIGHER CONCN. OF AU.

UNCLASSIFIED

USSR UDC: 536.32.2

TARASOVA, T.F., GIL'DENGORN, I.S. and ROGEL'BERG, I.L.

"Thermocouple of Palladium-Chromium and Palladium-Aluminum Alloys"

Tr. In-ta fiz. met. Ural'sk. nauch. tsentra AN SSSR (Transactions of Physics Metrology Institute, Ural Scientific Center, Academy of Sciences USSR) 1971, vyp 28, pp 261-265 (from Referativnyy Zhurnal-Metrologiya i Izmeritel'naya Tekhnika, No 8, 1972, Abstract No 8.32.862)

Translation: Results are presented of the systematic investigation of thermoelectric properties and heat resistance of double and triple solid solutions of palladium with the metals of III-VIII groups of the periodic system, the purpose of the investigation is to develop new alloys with palladium base, containing no gold or other metals of the platinum group (except palladium). It is established that thermocouples from Pd+10Cr - Pd+3Al+5Ni alloy have adequate stability, sufficient sensitivity ($\sim$ 22 mcV/degree) and long life at elevated temperatures. At present thermocouples from this alloy are tested under service conditions (4 illustrations, 3 references).

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SYNTHESIS OF SYMMETRICAL AND UNSYMMETRICAL ACETALS OF NITRO ALCOHOLS -U-

AUTHOR-(03)-TSYBASOV, V.P., TARASOVA, T.I., PETROVICH, V.F.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 70-2

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC SYNTHESIS, ACETAL, ORGANIC NITRO COMPOUND, HYDROXYL RADICAL, PENTANOL, BUTANOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0784 STEP NO--UR/0153/70/013/001/0070/0072

CIRC ACCESSION NO--AP0124453

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124453

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYM. ACETAL (A) OF 2 NITRO 1 PENTANOL (I) IS PREPD. IN 45.5PERCENT YIELD BY ADDING 1.7 G ACH TO 10 G I AND 0.1 ML CONCD. HCL AND HEATING THE MIXT. 1.5 HR AT 60DEGREES. IA, D PRIME20 1.0801, N PRIME20 SUBD 1.4464, B IS LESS THAN SUB1 136DEGREES. A SYM. ACETAL, B SUB2 110DEGREES, D PRIME20 1.1798, N PRIME20 SUBD 1.4485, IS PREPD. SIMILARLY FROM 2 NITRO 1 PROPANOL IN 25PERCENT YIELD. THE UNSYM. ACETAL OF ETOH AND I, B USB1 73-4DEGREES, D PRIME20 1.0052, N PRIME20 SUBD 1.4303, IS PREPD. IN 48PERCENT YIELD BY REACTING 13.9 G I AND 0.1 ML CONCD. HCL WITH 7.5 G. H SUB2C:CHOET (II), HOLDING THE TEMP. AT 20-30DEGREES DURING ADDN. AND 1 HR AT 60DEGREES. BY REVERSING THE ADDN. OF THE REAGENTS AND DOUBLING THE PROPORTION OF II, THE YIELD IS INCREASED TO 76PERCENT. UNSYM. ACETALS, B SUB1 90-91DEGREES, D PRIME20 1.1371, N PRIME20 SUBD 1.4363, AND B SUB1 94-5DEGREES, D PRIME20 1.1142, N PRIME20 SUBD 1.4378, ARE PREPD. FROM II AND 2, 2 DINITRO 1 BUTANOL AND 2,2 DINITRO 1 PENTANOL IN 62 AND 42PERCENT YIELDS.

FACILITY: LENINGRAD. MEKH. INST., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 621.373.531.3(088.8)

TARASOV, V. F., TARASOVA, Z. F.

"Pulse Shaper"

USSR Author's Certificate No 276154, Filed 18 Dec 67, Published 13 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G233P)

Translation: A pulse shaper is proposed which contains a master oscillator, an input trigger, a binary counter and a digital-to-analog converter. In order to obtain a series of square pulses with linearly varying amplitude, a counter code memory register is used in it which is controlled by two slave multivibrators. The counter code carry multivibrator is connected to the load resistance of one arm of the trigger, and the multivibrator for clearing the register is connected to the load resistance of the other arm of the trigger.

1/1

USSR

UDC 539.3

TARAS'YEV, G. S.

"On the Concentration of Stresses in Plane Problems Under Finite Elastic Deformations of Different-Modular Material"

V sb. Kontsentratsiya napryazh. Vyp. 3 (Concentration of Stresses. No. 3 -- Collection of Works), Kiev, "Nauk dumka", 1971, pp 162-168 (from RZh-Mekhanika, No 9, Sep 71, Abstract No 9V38)

Translation: Stress and deformation potentials are introduced for finite elastic deformations of a different-modular isotropic material. The basic relationships of the plane problems are formulated. It is recommended that specific problems of concentration of stresses should be solved by expansion of the basic characteristics of the stress-deformation state into binary series in terms of powers of the small parameters of the load and different-modularity. An exact solution is given for the axisymmetric problem for a plane deformation of an incompressible material for two characteristic dependences of the distortion. Authors abstract.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EQUATIONS OF NONLINEAR ELASTICITY IN DISPLACEMENTS -U-

AUTHOR--TARASYEV, G.S.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, DOKLADY, VOL. 191, APR. 21, 1970, P. 1249-1252. 7 REFS.
DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PHYSICS

TOPIC TAGS--ELASTICITY, METAL STRESS, STRESS STRAIN DIAGRAM, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0563 STEP NO--UR/0020/70/191/000/1249/1252

CIRC ACCESSION NO--AT0126310

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 020

CIRC ACCESSION NO--AT0126310

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF EQUATIONS OF NONLINEAR ELASTICITY IN DISPLACEMENTS, USING GREEN'S AND HENCKY TENSORS AS DEFORMATION TENSORS. AN EQUATION IS GIVEN TO DESCRIBE THE MOTION OF A PARTICLE IN A REFERENCE SYSTEM AS A FUNCTION OF THE ACCELERATION, MASS FORCES, AND DENSITY. A PROCEDURE IS DEVELOPED TO OBTAIN A LAME EQUATION FROM THIS EQUATION. THE RESULTS ARE APPLIED TO THE DETERMINATION OF THE STRESS STRAIN STATE OF A BODY WITH A SPHERICAL CAVITY UNDER A GIVEN CONSTANT STRESS APPLIED AT INFINITY. FACILITY: TUL'SKII POLITEKHNICHESKII INSTITUT, TULA, USSR.

UNCLASSIFIED

1/2 036 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--STUDY OF THE MAGNITUDE AND CHARACTER OF RESIDUAL STRESSES IN SHEETS OF STEEL USED IN ELECTRICAL APPARATUSES -U-

AUTHOR-(03)-KORZUNIN, G.S., TARASYUK, B.A., UVAROVA, M.P.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, SERIYA FIZICHESKAYA, FEBRUARY 1970, PP 281-288

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--STEEL SHEET, SHEET METAL, METAL STRESS, TECHNICAL STANDARD, METAL COMPRESSIBILITY, INTERNAL STRESS, STRESS RELAXATION, MAGNETIC ANISOTROPY, ELECTRIC STEEL, TRANSFORMER STEEL, HOT ROLLING, MAGNETIC PROPERTY, STRAIN GAGE, MAGNETIC COERCIVE FORCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1314 STEP NO--UR/0048/70/000/000/0281/0288

CIRC ACCESSION NO--AP0121811

UNCLASSIFIED

2/2 036 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121811

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MECHANICAL STRESSES OCCURRING DURING FORCED STRAIGHTENING OF SHEETS OF HOT ROLLED TRANSFORMER STEEL WITH NORMAL FINISHING OF THE SURFACE (ACCORDING TO GOST (GOVERNMENT STANDARD) 802-58) WERE DETERMINED BY MEANS OF STRAIN GAUGES AFFIXED TO VARIOUS PARTS OF ENTIRE SHEETS. WITH A PRESSURE OF 300 KG ON HALF OF A SHEET, COMPRESSION PREDOMINATES IN THE METAL, ATTAINING 600 KG-CM PRIME2 IN SOME SECTIONS. BY MEANS OF A MAGNETIC ANISOTROPY SENSOR, STRAIN GAUGES, AND A FORSTER OERSTED METER, THE AUTHORS DETERMINED THE MAGNITUDE AND CHARACTER OF THE DISTRIBUTION BY SHEET OF THE RESIDUAL STRESSES AND COERCIVE FORCE. AFTER THE TESTED SHEETS WERE OUT, RELAXATION OF THE STRESSES AND COERCIVE FORCE WAS OBSERVED. A LARGE INHOMOGENEITY OF INTERNAL STRESSES OF THE FIRST KIND AND OF THE H SUBC WAS INDICATED WITH RESPECT TO MAGNITUDE AS WELL AS ORIENTATION IN THE PLANE OF THE SHEET. AFTER CUTTING, THE STRAINS ARE REMOVED AND H SUBC DECREASES. THE QUANTITATIVE RESULTS OF THE MEASUREMENTS OF THE INTERNAL STRESSES AND COERCIVE FORCE WHEN THE SHEETS ARE CUT INDICATE THE POSSIBLE EXISTENCE OF A DIVERGENCE IN THE EVALUATION OF THE MAGNETIC PROPERTIES OF STEEL FOR ELECTRICAL APPARATUSES PRODUCED AS WHOLE SHEETS AND THOSE OF INDIVIDUAL SAMPLES. FACILITY: INSTITUTE OF THE PHYSICS OF METALS, USSR ACADEMY OF SCIENCES.

UNCLASSIFIED

USSR

KORZUNIN, G. S., TARASYUK, B. A., UVAROVA, M. P. (Institute of the Physics of Metals, USSR Academy of Sciences)

"Study of the Magnitude and Character of Residual Stresses in Sheets of Steel Used in Electrical Apparatuses"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, February 1970, pp 281-288

Abstract: Mechanical stresses occurring during forced straightening of sheets of hot-rolled transformer steel with normal finishing of the surface (according to GOST [Government Standard] 802-58) were determined by means of strain gauges affixed to various parts of entire sheets. With a pressure of 300 kg on half of a sheet, compression predominates in the metal, attaining 600 kg/cm^2 in some sections.

By means of a magnetic anisotropy sensor, strain gauges, and a Förster oersted meter, the authors determined the magnitude and character of the distribution by sheet of the residual stresses and coercive force. After the tested sheets were cut, relaxation of the stresses and coercive force was observed.

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USSR

KORZUNIN, G. S., et al., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, February 1970, pp 281-288

A large inhomogeneity of internal stresses of the first kind and of the H_c was indicated with respect to magnitude as well as orientation in the plane of the sheet. After cutting, the strains are removed and H_c decreases. The quantitative results of the measurements of the internal stresses and coercive force when the sheets are cut indicate the possible existence of a divergence in the evaluation of the magnetic properties of steel for electrical apparatuses produced as whole sheets and those of individual samples.

2/2

USSR

UDC 536.46:533.6

PERVITSKAYA, E. A., SKABIN, A. P., TARASYUK, V. A.

"Approximation Methods for Studying Diffusion Combustion in a System of Turbulent Jets"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 352-356 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B949)

Translation: A system of jets of hot components flowing from parallel channels (plane of circular) with thin walls and located in a certain order is discussed. The problem is reduced to the solution of heat conductivity equations for rectangular profiles of all gasdynamic values given at the input to the combustion zone by introducing ordinary Mises variables and linearization. A simple relationship is established between the longitudinal pressure drop Δp and the coefficient of combustion completeness ε:

$$\varepsilon = \Delta p / \Delta p_{\infty} \quad ,$$

where Δp_{∞} is the drop in the insufficient component under total combustion. Analysis of the measurements of the coefficient of completeness of combustion

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USSR

PERVITSKAYA, E. A., et al, Goreniye i vzryv, Moscow, "Nauka", 1972, pp 352-356

given by different authors made it possible to establish a fairly general relationship between this and the input parameters in the case of an axisymmetric flow: $\varepsilon = 1 - e^{-ax_2}$, where x is the longitudinal coordinate and a is the coefficient determined by the geometry, the relationship of the densities, and the stochiometric coefficient. Authors' abstract.

2/2

USSR

UDC 533.601.172

SKABIN, A. P., TARASYUK, V. A.

"Interaction of an Acoustic Disturbance with a Shock Wave"

Trudy Leningradskogo Politekhnicheskogo Instituta, Aerotermodinamika (Works of the Leningrad Polytechnical Institute, Aerothermodynamics), No 313, 1970, pp 97-101

Translation: Expressions for the perturbations of the flow rate, momentum and energy on movement of a gas through a compression shock are written in the system of coordinates related to the compression shock. It is demonstrated that on incidence of sound waves from a supersonic region, the pressure perturbation is intensified on passage through the compression shock, and the entropy perturbation generates a pressure wave.

In cases where the wave incident on the compression shock is propagated from a subsonic region, expressions are obtained for the acoustic conductivity, the entropy component of the perturbation and the compression shock displacement velocity. The acoustic conductivity is a

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USSR

SKABIN, A. P. et al., Trudy Leningradskogo Politekhnicheskogo Instituta, Aerotermodinamika (Works of the Leningrad Polytechnical Institute, Aerothermodynamics), No 313, 1970, pp 97-101

real number which varies within highly restricted limits on variation of the Mach number beyond the compression shock. There are 2 illustrations and a 3-entry bibliography.

2/2

HYDROACOUSTIC TELEMETRY

JPRS 61084

28 January 1974

HYDROACOUSTIC TELEMETRY

Translation of Russian-language book by Yu. F. Tarasyuk and G. N. Seravin: Gidroakusticheskaya Telemetriya, 1973, signed to press 6 April 1973, Izdatel'stvo Sudostroyeniye, Leningrad, 176 pages.

CONTENTS

	PAGE
ANNOTATION	1
PREFACE	3
INTRODUCTION	5
CHAPTER I: Conditions of the Propagation of Hydroacoustic Signals in Seas and Oceans	12
CHAPTER II: The Bases of Telemetry	36
CHAPTER III: Transmission of the Results of Measurements Along a Hydroacoustic Channel	64
CHAPTER IV: Hydroacoustic Telemetry Systems in Oceanography	99
CHAPTER V: Hydroacoustic Telemetry in the Navy	121
CHAPTER VI: Hydroacoustic Telemetry on Board Ships of the Fishing Fleet	148
CHAPTER VII: Hydroacoustic Systems for Telemetry and Remote Control of Objects on the Bottom of the Sea	187
CONCLUSION	205
BIBLIOGRAPHY	208

TARASYUK, Yu. F.

UDC 621.398:681.883

ANNOTATION

The purpose of this book is to acquaint the reader with a new rapidly developing field of telemechanics--hydroacoustic telemetry, which covers problems of the theory and practical application of technical devices for remote transmission of the results of measurements under water with the use of a hydroacoustic communications channel.

The appearance of hydroacoustic telemetry was caused by the widespread advance of mankind to the ocean, the enormous volume of work in the location and extraction of minerals and fish products at great depths and on the bottom of the sea, where the application of cable communications lines causes considerable difficultic . Hydroacoustic telemetric systems and instruments are used on board oceanographic vessels for the transmission of information from pickups that monitor the temperature, salinity, speed of sound, or remote transmission of data concerning the width of the opening of the trawl, the distance of the lower set of a trawl from the ground, the quantity of fish in the trawl, and also for remote control of drill rigs, petroleum pipelines, and other underwater production objects.

The task of the authors lay in generalizing available data and explaining the bases of the calculation and use of hydroacoustic telemetric systems of various designations. In the book conditions of the propagation of acoustic oscillations in the oceans and seas are considered in detail, and the range of operating frequencies of telemetric apparatus is determined, while the requirements imposed upon the information characteristics of a hydroacoustic telemetric channel and upon signals are explained, an analysis is given of the features of the transmission of the results of measurements by means of hydroacoustic signals, and a description is given of the most interesting systems which are now in operation among oceanographers, fishermen, specialists in the naval fleet, and marine geologists.

The book discloses the prospect of the further development of methods and means for hydroacoustic telemetry, shows paths for an increase

in the range of their operation, with observation of the given requirements imposed upon the speed of transmission of the data.

Theoretical methods and practical recommendations explained in the book will be useful to specialists engaged in the development, designing, and operation of hydroacoustic telemetric systems.

82 illustrations, 3 tables, bibliography of 64 titles.

Scientific Editor, Engineer V. A. Pokrovskiy.

Reviewers, Candidate of Naval Sciences A. L. Prostakov and Candidate of Engineering Sciences Ye. I. Chverkin.

PREFACE

The great attention of the leading countries of the world to the study of the ocean and the development of its resources have led to the rapid development of hydroacoustics, mainly because of its enormous applied value.

The practical requirements of oceanography, the development of the fisheries resources of great depth, and prospecting for and extracting minerals on the bottom of the sea, etc., have predetermined the development of a new trend in hydroacoustics in recent years--hydroacoustic telemetry. The designation of hydroacoustic telemetric instruments lies in the automatic remote measurements of various physical parameters of the medium at great depths, in monitoring the behavior of objects under water and on the bottom of the sea, with the transmission of information along a hydroacoustic channel.

The ever increasing requirements imposed on the technical characteristics of hydroacoustic telemetric apparatus, on the one hand, and the inadequate satisfaction of them in specific systems on the other hand, are forcing specialists in hydroacoustics and telemetry to devote their thoughts theoretically to the potential possibilities of the new trend in hydroacoustics and to seek the most optimum means of realization of the problems stated.

A survey of the literature discussing the problems mentioned demonstrate that at the present time there are no special works in hydroacoustic telemetry which are systematized in nature.

This book is the first attempt to generalize the enormous amount of material, and also to determine the general principles of hydroacoustics telemetry understandable to specialists working in the fields of shipbuilding, telemechanics, radioelectronics, and hydroacoustics, for the purpose of uniting their efforts in the matter of studying the World Ocean and the development of its riches which are hidden at great depths.

USSR

TARASYUK, Yu. F. (Reviewer)

Gidroakusticheskiye Poiskovyye Pribory (Hydroacoustic Searching Devices), by K. V. Loginova and Yu. V. Shishlo, Moscow, "Pishcheveya promyshlennost', 1971, 304 p

Moscow, Rybnoye Khozyaystvo, No 10, 1972, pp 94-95

Abstract: The above book, the 2nd edition of a work first issued in 1964, is reviewed largely against the background of the large volume of material published on the subject since then. The review emphasizes the shortcomings of the book. The first section, which deals with the theory of hydroacoustic devices, is criticized for ignoring or presenting in haphazard manner such important characteristics of the water medium as the rate of propagation of sound, decrease in intensity of acoustic signals with distance, etc. More attention should have been paid to reverberation and to the distoritions produced in signals between the point of emission and reflecting object and vice versa. The reviewer also objects to the authors' technical terminology which is often inexact or, due to the use of numerous variants, confusing. Despite its weaknesses, the book is considered an interesting and important contribution to the subject because efficient large-scale commercial fishing is

USSR

TARASYUK, Yu. F., Rybnoye Khozyaystvo, No 10, 1972, pp 94-95

heavily dependent on the quantity and quality of the hydroacoustic instruments on board and on the skill with which they are used.

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USSR

UDC 669.721.074.2

FIALKOV, Yu. G., TARAT, E. Ya., PICHUKOV, A. P., NIKITINA, A. P., SHKODINA, V. G.

"Purification of Magnesium Production Gases to Remove Chlorine in Hollow Scrubber"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 123-132. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G203 by the authors).

Translation: The influence of the composition of the absorbent, speed and direction of gas flow, and sprinkling density on absorption of Cl by lime milk was studied in an industrial scrubber. The decrease in the degree of gas purification resulted from a change in the hydrodynamic conditions in the scrubber due to foaming of the absorber. Foaming began at concentrations of $Ca(ClO)_2$ of 45-60 g/l with various contents of $Ca(OH)_2$ and resulted from decomposition of the $Ca(ClO)_2$. Addition of $CaCl_2$ to the absorbent (initial content 100 g/l) did not change the indices of absorption. With counterflow movement of the phases, increasing the gas speed from 1 to 2.5 m/sec improved purification. The effectiveness of operation of the direct flow zone of the scrubber was decreased with increasing gas speed. Increasing the sprinkling density from 18 to 60 $m^3/m^2 \cdot hr$ helps to improve the absorption indicators. With counterflow, the empirical equation $K_V = 2.75 \cdot W^{1.25} \cdot L^{0.67}$ was produced, where K_V is the volumetric coefficient of the rate of absorption, $Kmol/m^3 \cdot hr \cdot bar$, W is the is the gas speed, m/sec, and L is the sprinkling density, $m^3/m^2 \cdot hr$. 6 figs.

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1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--STRUCTURE AND INTERFACIAL SURFACE OF DISPERSED GAS,LIQUID AND GAS,LIQUID,SOLID SYSTEMS FORMED IN FOAM APPARATUS -U-

AUTHOR-(04)-YENGIBARYAN, S.N., TARAT, E.YA., MUKHLENOV, I.P., BARTOV, A.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(5), 1178-82

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL ENGINEERING, COPPER SULFATE, AQUEOUS SOLUTION, PHASE ANALYSIS, MODEL, SODIUM HYDROXIDE, FOAM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0955 STEP NO--UR/0080/70/043/005/1178/1182

CIRC ACCESSION NO--AP0131540

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0131540

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDRODYNAMIC STUDIES OF DISPERSED GAS LIQ. (AIR WATER, AIR SATD. CUSO SUB4 SOLN., 3PERCENT CO SUB2 IN AIR 1.8N NAOH) AND GAS LIQ. SOLID (AIR SATD. CUSO SUB4 SOLN. CUSO SUB4 CRYSTALS) SYSTEMS WERE CONDUCTED IN A PLANAR (2-DIMENSIONAL) FOAMING APP. MODEL AT GAS VELOCITIES SMALLER THAN OR EQUAL TO 2.5 M-SEC. CHANGES IN THE SURFACES OF THE CONTACTING PHASES AND CHANGES IN STRUCTURE WERE FOLLOWED CINEMATOGRAPHICALLY. THREE DISTINCT HYDRODYNAMIC REGIMES WERE IDENTIFIED WHICH VARIED WITH THE GAS VELOCITY W; AT LOW W, THE GAS WAS DISPERSED IN THE LIQ.; AT INTERMEDIATE W, AN INVERSION OF PHASES OCCURRED AND CLUSTERS OF LIQ. DROPLETS AND GAS BUBBLES (VOIDS) WERE PRESENT; AND AT HIGH W, THE LIQ. WAS FULLY DISPERSED IN THE GAS. CHANGES IN THE GAS VOL. FRACTION, SP. CONTACTING SURFACE OF THE CLUSTER, AND PRESSURE DROP CHANGES IN THE LAYERS DETD. AS A FUNCTION OF TIME ARE DISCUSSED; TWO MODES OF GAS FILLING OF THE LIQ. CLUSTERS AND OF THE VOIDS WERE OBSD. AND ARE DISCUSSED.

FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--EXPRESSION FOR THE DRIVING FORCE AND THE RELATIVE PHASE RESISTANCE IN ABSORPTION PROCESSES ACCOMPANIED BY A CHEMICAL REACTION -U-

AUTHOR-(03)-TARAT, E.YA., PONOMAREV, YU.L., MUKHLENOV, I.P.

COUNTRY OF INFO--USSR

SOURCE--TEOR. OSN. KHIM. TEKHNOL. 1970, 4(1), 102-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION, SODIUM COMPOUND, CARBONATE, CHEMICAL ABSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0483 STEP NO--UR/0455/70/004/001/0102/0105

CIRC ACCESSION NO--AP0126235

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126235

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THE DRIVING FORCE OF ABSORPTION WITH CHEM. REACTION ON SOME PROPERTIES OF THE LIQ. PHASE AND ON THE PROCESSES TAKING PLACE IN IT WAS STUDIED THEORETICALLY AND EXPTL. IN A SYSTEM OF SO SUB2 (AIR) AND AQ. SOLNS. OF NA SUB2 CO SUB3 UNDER FOAMING CONDITIONS IN A FOAM APP. THE RATE OF ABSORPTION DOES NOT DEPEND LINEARLY ON THE SO SUB2 PARTIAL PRESSURE. IT IS ALSO A FUNCTION OF THE CONCN. OF THE ACTIVE PART OF THE ABSORBENT IN SOLN. THE DEPENDENCE OF THE ABSORPTION RATE ON THE AV. DRIVING FORCE IS EXPRESSED BY A STRAIGHT LINE WITHIN A WIDE PRESSURE AND CONCN. RANGE. WITH AN INCREASE IN THE LIQ. FLOW (LIQ. CONSUMPTION) THE RELATIVE RESISTANCE OF THE LIQ. PHASE AND THE PARTIAL PRESSURE OF THE ABSORBED COMPONENT IN THE GAS PHASE DECREASES. AT A LIQ. CONSUMPTION OF 0.625 M PRIME3-M HR, A PARTIAL PRESSURE OF 0.04 ATM OF THE ABOSRBED COMPONENT IN THE GASEOUS PHASE, AND A CONCN. OF THE ACTIVE PART OF THE ABSORBENT OF 0.1 G EQUIV.-L. THE RELATIVE RESISTANCE OF THE LIQ. PHASE IS 0.63. AT A LIQ. CONSUMPTION OF 3.5 M PRIME3-M HR UNDER OTHERWISE EQUAL CONDITIONS, THE RELATIVE RESISTANCE IS 0.325. FACILITY: LENINGRAD, TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 038 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--RELAXATION AND OPTICAL PROPERTIES OF A HARDENED EPOXY RESIN -U-

AUTHOR-(02)-TARATORIN, B.I., KRYZHANOVSKIY, V.V.

COUNTRY OF INFO--USSR

SOURCE--MEKH. POLIM. 1970, 6(1), 15-23

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--EPOXY RESIN, POLYMER CROSSLINKING, OPTIC PROPERTY, PHTHALIC ANHYDRIDE, MALEIC ANHYDRIDE, EXCITED STATE, MATERIAL DEFORMATION, COMPRESSIVE STRESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0812 STEP NO--UR/0374/70/006/001/0015/0023

CIRC ACCESSION NO--AP0107354

UNCLASSIFIED

2/2 038 UNCLASSIFIED

CIRC ACCESSION NO--AP0107354 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELAXATION PERIODS (TAU) OF THE DISCRETE KINETIC ENTITIES OF EPOXY RESINS (I) CROSSLINKED WITH METHYLTETRAHYDROPHTHALIC OR MALEIC ANHYDRIDE WERE DETD. BY LIGHT BIREFRINGENCE. TAY IS DEFINED BY THE RELATION DV-DT EQUALS MINUS (V MINUS V)-TAU, WHERE V IS THE FRACTION OF THE KINETIC ENTITIES IN THE EXCITED STATE AND V IS THE FRACTION OF THE KINETIC ENTITIES AT EQUIL. THE DETNS. OF TAU DURING COMPRESSION OF I AT A CONST. DEFORMATION RATE GAVE THE APPROX. RELATION T SUBMIN-10 PRIME2 APPROXIMATELY EQUAL TO 10 PRIME5 APPROXIMATELY EQUAL TO 1.781 (TAU IS GIVEN IN SEC).

UNCLASSIFIED

USSR

UDC 612.563.014.482

TARATUKHIN, V. R., RAPPOPORT, I. A., and LEMESH, G. A.

"Changes in the Sink Temperature Under the Effect of Ionizing Radiation"

Moscow, Meditsinskaya Radiologiya, Vol 18, No 8, Aug 73, pp 61-63

Abstract: Changes in the skin temperature of rats were studied after general irradiation of the animals with x-rays in doses of 50 and 100 r and local irradiation of the back freed of fur with beta-rays from ^{85}Kr in doses of 2.5 and 7.4 krad. In every instance the temperature increased on the 3d day after irradiation. This increase was statistically reliable except on irradiation with beta-rays in a dose of 2.5 krad. On irradiation with x-rays in a dose of 100 r, the skin temperature increased steadily, reaching a maximum on the 14th day after irradiation. After this there was a tendency towards a temperature decrease on the 21st day, which was followed by a return of the temperature to normal on the 28th day. On irradiation with x-rays in a dose of 50 r, the temperature was below normal on the seventh day, returning to normal on the 14th day and then decreasing to a minimum on the 21st day and returning to normal again on the 28th. Irradiation with beta-rays in a dose of 7.4 krad

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TARATUKHIN, V. R., et al., Meditsinskaya Radiologiya, Vol 18, No 8, Aug 73, pp 61-63

resulted in temperatures above normal from the third to 28th day. On irradiation with beta-rays in a dose of 2.5 krad, the temperature remained above normal until the 21st day, changing in a wave-like fashion, and then dropped from normal on the 21st day to below normal between the 21st and 28th day.

2/2

USSR

UDC 612.79:014.482.3

MIRTOV, A. V., RAPPOPORT, I. A., and TARATUKHIN, V. R., Leningrad

"Effect of Soft Beta Radiation on the Sorption Properties of the Skin"

Moscow, Meditsinskaya Radiologiya, No 3, 1972, pp 64-66

Abstract: Rats were exposed to soft Xe^{133} beta radiation at 6.0, 9.4, and 14.7 rad and at various times thereafter injected intravenously with neutral red. One hour later, when sorption of the dye in the skin was greatest, the animals were decapitated and specimens were taken from irradiated areas to determine the amount of dye in 1 g of tissue for comparison with the controls. The results failed to show any significant difference between the experimental and control animals with respect to the amount of dye in the specimens, suggesting that soft X^{133} beta radiation at the doses used does not injure skin tissue. None of the irradiated animals developed visible skin lesions.

1/1

Semiconductors and Transistors

UDC 621.315.592

USSR

TARATUTA, A. S., CHAYKA, G. YE.

"Surface Current Interference"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 5, No 3, March 1971, pp 377-384

Abstract: A theoretically new physical model of noise formation in the surface domain is proposed. The basic difference of the model from all known ones is consideration of relaxation phenomena occurring as a result of traps in the space charge domain of the surface layer. As a result of this type of relaxation-generation phenomena, the current in the external circuit is a quasistationary pulse process. Basic theories of surface noise are developed on the basis of the proposed model: the mechanism of 1/f noise is described analytically, and the nature of the spectrum of the frequency-independent component of the surface noise for various magnitudes of bending of the zones are investigated; a number of other phenomena not fully explained by the existing series are also studied.

It is noted that if there are traps in the space charge layer with different energy levels, the observed frequency-dependent component of the

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USSR

TARATUTA, A. S., et al., Fizika i Tekhnika Poluprovodnikov, Vol 5, No 3, March 1971, pp 377-384

noise spectrum is basically determined by the traps with relatively low probabilities of recombination, which are in the majority. The noise current of the surface region is the sum of two components: the component with uniform frequency spectrum in the entire operating band and the component with the 1/f type spectrum.

2/2

TITLE--THE STABILITY OF WELDED PIPE CONNECTIONS OF HEATING SURFACES IN THE CASE OF ACID RINSES BY A AMMONIUM MONOCITRATE AND TRILON B -U-

PROCESSING DATE- 09OCT70

AUTHOR-(03)-ANTIKAYN, P.A., NOVI, YU.O., TARATUTA, V.A.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, ENERGOMASHINOSTROYENIYE, NO 3, 1970, PP 31-34

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--PIPE WELDING, STEAM BOILER, METAL CLEANING, HYDROCHLORIC ACID, RESEARCH FACILITY, ALLOY DESIGNATION, STAINLESS STEEL, LOW ALLOY STEEL, CARBON STEEL, COMPLEX COMPOUND, THERMAL STABILITY, METALLOGRAPHY/(U)ST20 CARBON STEEL, (U)12KHIMF LOW ALLOY STEEL, (U)KH18N12T STAINLESS STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0879

STEP NO--UR/0114/70/000/003/0031/0034

CIRC ACCESSION NO--AP0113727

2/2 033 UNCLASSIFIED

CIRC ACCESSION NO--AP0113727 PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE USSR AND ABROAD, FOR THE REMOVAL OF DEPOSITS FORMED ON THE HEATING SURFACES OF BOILERS, SOLUTIONS OF COMPLES FORMING REAGENTS ARE USED. DATA UPON THE EFFECT OF THESE SOLUTIONS, IN PARTICULAR AMMONIUM MONOCITRATE AND TRILON B, UPON THE STABILITY OF THE WELDED PIPE JOINTS OF HEATING SURFACES ARE PRACTICALLY ABSENT. IT IS MERELY KNOWN THAT WHEN CHEMICAL CLEANINGS ARE CARRIED OUT PRIOR TO THE START OF OPERATIONS, THERE ARE PRACTICALLY NO SPECIFIC DIFFICULTIES CONNECTED WITH IMPAIRMENT OF THE DENSITY AT THE WELDING SITES. NEVERTHELESS, AS HAS BEEN SHOWN BY STUDIES OF THE ALL UNION INSTITUTE OF HEAT ENGINEERING IMENI F. E. DZERZHINSKIY, WHEN THE PIPES ARE RINSED BY A WEAK SOLUTION OF INHIBITED HYDROCHLORIC ACID THE WELDED SEAMS ARE THE MOST VULNERABLE POINTS OF THE WATER AND STEAM CHANNEL. IN THIS CONNECTION, A STUDY WAS CARRIED OUT AT THE MOSCOW BRANCH OF THE CENTRAL SCIENTIFIC RESEARCH, PLANNING ADO DESIGN BOILER AND TURBINE INSTITUTE, WHICH HAS MADE IT POSSIBLE TO CLEAR UP THE QUESTION CONCERNING THE BEHAVIOR OF WELDED PIPE CONNECTIONS UNDER CONDITIONS OF REPEATED CLEANING OF BOILERS WITH THE USE OF COMPLES FORMING REAGENTS. INCLUDED IN THE INVESTIGATION WERE X RAY, MICROSTRUCTURE, AND METALLOGRAPHIC TESTS. AS A RESULT OF THE WORK PERFORMED, IT MAY BE CONSIDERED AS ESTABLISHED THAT WELDED JOINTS OF STEELS 20, 12KH1MF AND KH18N12T, MADE BY CONTACT, ELECTRIC ARC, AND GAS WELDING, DO NOT IMPOSE ANY RESTRICTIONS ON THE CONDUCT OF OPERATIONAL CHEMICAL CLEANINGS OF THE UNIFLOW BOILERS WITH THE USE OF COMPLEX FORMING REAGENTS (AMMONIUM MONOCITRATE MIXED WITH TRILON B).

UNCLASSIFIED

USSR

UDC 538.221+538.245

BELOV, K. P., YELYUTIN, O. P., KATAYEV, G. I., NIKITIN, S. A., PSHECHENKOVA, G. V., TARATYNOV, V. P., and SHUL'TE, L. A., Moscow State University imeni M. V. Lomonosov, Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Study of Magnetic Properties of Rare-Earth Dysprosium-Holmium-Erbium Alloys at a Temperature of 4.2° K"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 36, No 6, 1972, pp 1247-1251

Abstract: The absence of systematic research on saturation magnetization for polycrystalline samples of rare-earth metals and their alloys makes it impossible to establish whether, in practice, they can be used as high-induction materials in fields up to 50 kOe at low temperatures. The purpose of the present article was to attempt to fill this gap. Pure rare-earth metals (obtained from the State Scientific Research and Planning Institute of the Rare Metals Industry) were studied, as well as dysprosium-holmium-erbium system alloys. Their magnetization curves were measured in fields up to 50 kOe at 4.2° K, values for coercive force and remanence were determined, and hysteresis loops were taken.

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USSR

UDC 669.018:669.017.538.23

BELOV, K. P., YELYUTIN, O. P., NIKITKIN, S. A., PSHECHENKOVA, G. V., SOKOLOV, V. I., and TARATYNOV, V. P., Moscow State University imeni M. V. Lomonosov and Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Magnetic Hysteresis of Rare-Earth Metals and Alloys"

Sverdlovsk, Fizika Metallov i Metallovedniye, Vol 30, No 6, Dec 70, pp 1146-1150

Abstract: A study was made of the hysteresis loops of rare-earth metals and alloys which possess a magnetic structure of the ferromagnetic spiral type (Dy-Er and Ho-Er). Ingots of rare-earth metals with a purity of 99.5% were made in a vacuum-arc zone furnace with a nonconsumable tungsten electrode and a water-cooled copper hearth. Melting was done under argon at a pressure of 300-400 mm Hg in two passes with rotation of the ingots. Samples 2.5 mm in diameter and 28 mm long were machined from the ingots and vacuum annealed for 24 hours at a pressure of 10^{-3} mm Hg. The magnetic characteristics were obtained in a superconducting solenoid (50 kilooersted) at 4.2°K. In this field the hysteresis properties of gadolinium, terbium, dysprosium, holmium,

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USSR

BELOV, K. P., et al, Fizika Metallov i Metallovedniye, Vol 30, No 6, Dec 70, pp 1146-1150

and erbium and alloys Dy-Er and Ho-Er were studied. A new type of hysteresis was observed in the alloys manifested by failure of the ferromagnetic spiral in a strong field. It was established that despite a vast magnetic anisotropy, cast samples of rare-earth metals and alloys, even under magnetization in a field of 50 kilooersted at 4.2°K, possess comparatively small values of the coercive force which does not exceed 10^3 oersted.

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USSR

UDC 543.062 + 546.791

TARAYAN, V. M., OVSEPYAN, Ye. N., and PETROSYAN, A. A., Yerevan' State University, Institute of General and Inorganic Chemistry Acad. Sci. Armenian SSR (Yerevan')

"Extraction of Uranium (VI) with Basic Dye Acridine Orange NO"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 11, 1971, pp 966-970

Abstract: Maximum extraction of uranium (VI) into the organic phase was achieved in the presence of $4.0-8.5\cdot10^{-5}$M concentration of dye and $7.0-7.7\cdot10^{-3}$M concentration of sodium benzoate at pH 4.3-5.6. Excen benzoate produces a sharp rise in the optical density of the blank. Benzene is the preferred extractant for the ternary complex. The maximum light absorption of the benzene extract (505 nm) remained constant for 3-3.5 hours. The order of addition of reagents did not influence the optical density of extract. A direct proportionality between the uranium (VI) concentration in aqueous phase and the optical density of the extract remained constant within 0.1-5.5 μg UO_2^{2+}/ml. The average molar extinction coefficient is $5.4\cdot10^4$. The dye cation and the uranium (VI) benzoate anion react in a 1:1 molar ratio. The specificity factor $K = \frac{[ion]}{[UO_2^{2+}]}$ where [ion] is the 1/2

USSR

TARAYAN, V. M., et al., Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 11, 1971, pp 966-970

concentration of impurity ion low enough not to influence the extraction selectivity of uranium (VI) by dye was calculated for 12 cations and 3 anions. Five figures and one table.

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USSR

UDC 543.062+546.791+547.86

TARAYAN, V. M., OVSEPYAN, Ye. N., and PETROSYAN, A. A., Yerevan State University

"Extraction of the Benzoic Acid — Uranium (VI) Anion Complex With Some Thiazine Dyes"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 10, 1970, pp 957-958

Abstract: A study was carried out on the possibilities of utilizing thionine type dyes for extraction-photometric determination of uranyl ion. Methylene green (MG), azure I (AzI) and toluidine blue (TB) were examined using sodium benzoate as the reactive anion in forming the acido complex of uranium (VI). Maximum optical density of a constant level was found at pH 3.9-5.0 for MG, 4.5-5.2 for AzI, and 4.4-5.2 for TB. To achieve a complete extraction of the complex a $2.8 \cdot 10^{-5}$ to $6.9 \cdot 10^{-5}$ M concentration of MG is needed, the values for AzI and TB being $3.2 \cdot 10^{-5}$-$8.0 \cdot 10^{-5}$ and $3.3 \cdot 10^{-5}$-$6.6 \cdot 10^{-5}$ respectively. The best solvent system consisted of a mixture of dichloroethane-trichloroethylene, the optical density being constant in it for at least 2 hrs. Average apparent molar extinction coefficients for the extracts of uranium (VI) acido complexes were $7.3 \cdot 10^{-4}$ (MG), $7.2 \cdot 10^{-4}$ (AzI) and $8.4 \cdot 10^{4}$ (TB).

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1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--AMPEROMETRIC DETERMINATION OF FREE CHLORINE AND HYPOCHLORITE BY MERCUROUS NITRATE -U-

AUTHOR-(03)-TARAYAN, V.M., ACHARYAN, G.S., DARBINYAN, G.A.

COUNTRY OF INFO--USSR

SOURCE--ARM. KHIM. ZH. 1970, 23(1), 27-30

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NITRATE, MERCURY COMPOUND, AMPEROMETRIC TITRATION, CHEMICAL ANALYSIS, WATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1375 STEP NO--UR/0426/70/023/001/0027/0030

CIRC ACCESSION NO--AP0130333

UNCLASSIFIED

2/2 009 UNCLASSIFIED

CIRC ACCESSION NO--AP0130333 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AMPEROMETRIC TITRN. WITH 10 PRIME NEGATIVE5 -3 TIMES 10 PRIME NEGATIVE3 M HG SUB2 (NO SUB3) SUB2 IS PROPOSED FOR DETN. OF THE SUM OF CL, HCLO, AND HCLO SUB3 IN A MEDIUM OF 1M H SUB2 SO SUB4 WITH ADDN. OF 0.05-0.1 G KBR. AN EXTERNAL POTENTIAL OF PLUS 0.6 V IS APPLIED TO THE ELECTRODE COUPLE PT AND MOLAR HGI FOR THE SELECTIVE DETN. OF CL AND HCLO IN THE PRESENCE OF HCLO SUB3, ADD 50-100 MG KBR TO THE NEUTRAL SAMPLE SOLN., REMOVE THE EXCESS OF FREE BR PRIME NEGATIVE BY ADDN. OF HG(NO SUB3) SUB2, MAKE THE SOLN. ACID BY ADDING THE SAME VOL. OF 2M H SUB2 SO SUB4 AND TITRATE WITH HG SUB2 (NO SUB3) SUB2. THE PRESENT METHOD IS SUITABLE FOR ANAL. OF TAP AND WASTE WATER. THE HIGHEST RELATIVE ERROR IN DETN. OF 0.009-3.4 MG CL HAS 1.25PERCENT.

FACILITY: EREVAN. GOS. UNIV., EREVAN, USSR.

UNCLASSIFIED

UDC: 621.391.84:621.391.883.2

USSR

ZAYEZDNYY, A. M., TARAYEV, A. I.

"Concerning the Probabilistic Characteristics of Structured Communications, and Possibilities for Using Them for Separating a Signal From a Mixture With Interference"

V sb. Materialy Nauch.-tekhn. konf. Leningr. elektrotekhn. in-t svyazi. Vyp. 1 (Materials of the Scientific and Technical Conference of the Leningrad Electrical Engineering Institute of Communications--collection of works), Leningrad, 1971, pp 3-6 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3A21)

Translation: The paper proposes probabilistic characteristics for structured communications; these characteristics are combinations of the characteristics of the phase coordinates. Resumé.

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1/2 025 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ATTACHMENT OF ELECTRONS AND DISSOCIATION OF MOLECULES UNDER ELECTRONEGATIVE GAS GLOW DISCHARGE CONDITIONS. I. ROLE OF DISSOCIATIVE

AUTHOR-(03)-MAKSIMOV, A.I., SIZOV, V.D., TARAYSHKINA, L.I.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VYS. ENERG. 1970, 4(3), 278-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--GLOW DISCHARGE, ELECTRONEGATIVITY, ELECTRON CAPTURE, ETHANOL, CARBON TETRACHLORIDE, CHLORINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0875

STEP NO--UR/0456/70/004/003/0278/0279

CIRC ACCESSION NO--AP0137903

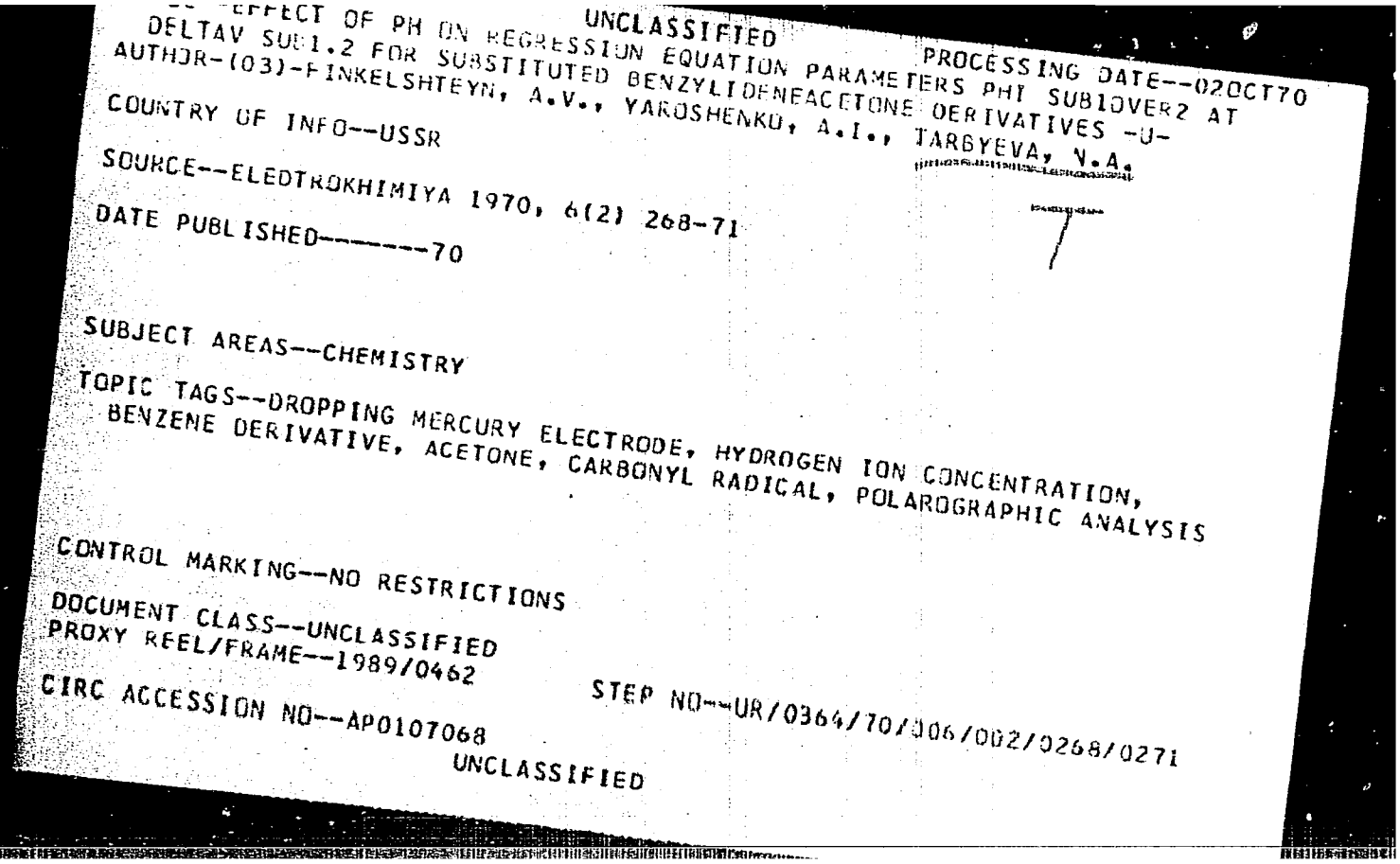
UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137903

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POTENTIAL GRADIENT AND THE RADIAL DISTRIBUTION OF INTEGRAL INTENSITIES OF RADIATION IN THE POS. COLUMN IN THE GLOW DISCHARGE OF ETOH, H SUB2 O, CCL SUB4, AND CL WERE DETD. AT P EQUALS 5 TIMES 10 PRIME NEGATIVE2 MINUS 5 TORR AND DISCHARGE CURRENTS OF 0.25-20 ,S OM YINRD 10-26 MM IN DIAM. AT P EQUALS 0.5-3 TORR, EXPTL. FIELDS AGREED WITH CALCD. VALUES BASED ON THE ASSUMPTION OF ATTACHMENT OF ELECTRONS TO MOLS. THE RADIAL DISTRIBUTION OF INTENSITIES DIFFERED FROM THE DIFFUSION THEORY, AND THE DIFFERENCE INCREASED WITH THE CROSS SECTION OF CAPTURE OF ELECTRONS BY MOLS. FACILITY: FILIAL INST. KHIM. FIZ., CHERNOGOLOVKA, USSR.

UNCLASSIFIED



UNCLASSIFIED PROCESSING DATE--02OCT70

EFFECT OF PH ON REGRESSION EQUATION PARAMETERS PHI SUB1OVER2 AT DELTAV SUB1.2 FOR SUBSTITUTED BENZYLIDENEACETONE DERIVATIVES -U-

AUTHOR-(03)-FINKELSHTEYN, A.V., YAROSHENKO, A.I., TARBYEVA, V.A.

COUNTRY OF INFO--USSR

SOURCE--ELEDTROKHIMIYA 1970, 6(2) 268-71

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DROPPING MERCURY ELECTRODE, HYDROGEN ION CONCENTRATION, BENZENE DERIVATIVE, ACETONE, CARBONYL RADICAL, POLAROGRAPHIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0462

STEP NO--UR/0364/70/006/002/0268/0271

CIRC ACCESSION NO--AP0107068

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0107068

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLAROGRAMS (I VS. PHI) AND THEIR DERIVS. (DI-D PHI, PHI) WERE RECORDED ON A POLAROGRAPH OF THE ON-102 TYPE AT 20DEGREES. THE CATHODE WAS A DROPPING HG ELECTRODE, THE ANODE A HG MACROELECTRODE. THE CONCN. OF THE STUDIED SUBSTANCE WAS 5 TIME 10 PRIME NEGATIVE4 M. FOR ALL PH VALUES STUDIED THERE IS A CLEAR CORRELATION BETWEEN THE HALF WAVE POTENTIALS, PHI SUB1-2, OF THE SUBSTITUTED BENZYLIDENEACETONE DERIVS. AND THE SOLVATOCHROMIC EFFECT (DELTAV SUB1-2): PHI SUB1-2 EQUALS ALPHS PLUS BETA DELTA V SUB1,2. THE GENERAL FORM OF THE EQUATION RELATING DELTA V SUB1,2 TO PHI SUB1-2 FOR REDN. OF BENZYLIDENEACETONE DOES NOT DEPEND ON PH AT PH EQUALS 2-5. THE PARAMETER BETA OF THIS EQUATION IS ALSO PRACTICALLY CONST. WITHIN THIS PH RANGE. THE PARAMETER ALPHS DECREASES WITH INCREASING PH AND IS A LINEAR FUNCTION OF THE H INDEX WHICH IS DESCRIBED BY THE EQUATION ALPHA NEGATIVE 0.481-0.058 PH. THE LINEAR CORRELATION BETWEEN PHI SUB1-2 AND DELTA V SUB1,2 CONFIRMS THE MECHANISM PROPOSED IN LITERATURE THAT THE CARBONYL GROUP AND NOT THE DOUBLE BOND IS REDUCED AND APPEARS AGAIN AFTER REGROUPING.

UNCLASSIFIED

USSR

LIMEZH, G. K., TARDENAK, E. F., TIBERG, Ya. E., Latvian "Order of the Red Banner of Labor State University imeni Petr Stuchka

UDC 681.325.5

"An Analog-Digital Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 4, Feb 72, Author's Certificate No 326725, Division H, filed 23 Mar 70, published 19 Jan 72, p 213

Translation: This Author's Certificate introduces an analog-digital converter with digit-by-digit balancing. The converter contains a null indicator, a programmed logic device and a digital-analog converter. As a distinguishing feature of the patent, the device is designed for improved accuracy in measuring the ratio between two voltages in digital form. The unit contains a controllable shunt made in the form of parallel-connected conductances and switches. The shunt is connected in parallel with the output of hte digital-analog converter, and the controlling inputs of the shunt are connected to the output of the programmed logic device.

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USSR

UDC 576.851.45.097.2

BAKHRAKH, Ye. E., BOROVIKOVA, T. P., VEYNBLAT, V. I., DAL'VADYANTS, S. M., and TARENENKO, T. M., All-Union "Mikrob" Plague Research Institute

"Characteristics of Somatic Antigens of Pasteurella pestis"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1972, pp 101-105

Abstract: Chemical analysis of the main somatic antigen of Pasteurella pestis showed that it does not contain lipid A or the sugars characteristic of the central polysaccharide-aldoheptose and ketodesoxyoctanate. The monosaccharides present include galactose, glucose, glucosamine, mannose, and rhamnose. Fractionation of the main somatic antigen on Sephadex G-75 results in 2 components. One consists mostly of protein and a small quantity of nucleic acids and a polysaccharide. The other contains not only proteins but all the sugars present in the original antigen. The polysaccharide-containing haptene is regarded as the lateral O-specific chain of a liposaccharide.

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USSR

UDC: 621.396.6-181.5

TAREYEV, A. N., FRIDLENDER, B. I., POLYACHEK, G. P.

"Calculation of the Temperature Conditions of Microcircuits Mounted on Printed Circuit Boards (External Problem)"

Sb. nauchn. tr. po probl. mikroelektroniki. Mosk. in-t elektron. tekhn. (Collected Scientific Works on Problems of Microelectronics, Moscow Institute of Electronic Technology), 1970, vyp. 5, pp 79-80 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V182)

Translation: This paper deals with calculation of the temperature field of a printed circuit board with integrated microcircuits as heat sources. The external arrangement of the microcircuits on the board is analyzed from the standpoint of heat conditions. Resumé.

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USSR

UDC 621.3

TAREYEV, B.M., FILIMONOV, YU.P.

"Properties Of Electrotechnical Materials At Cryogenic Temperatures"

Svoystva elektrotekhnicheskikh materialov pri priogennykh temperaturakh (cf. English above), Mosk. In-t radiotekhn., elektron. i avtomatiki (Moscow Institute Of Electrical Engineering, Electronics, And Automatics), Moscow, 66 pp, ill., 17 k. (from Elektrotekhnika i energetika, No 10, Oct 1972, Abs. No. 10B1K)

Translation: The book is school equipment for the Moscow Institute Of Electrical Engineering, Electronics, And Automatics (MIREA). In addition to purely scientific interest, study of the properties of various electrotechnical materials at cyrogenic temperatures is important in practice because in a number of instances electrotechnical materials are obliged to operate at extremely low temperatures of the environment (e.g., apparatus on board spaceships); and what is more, in a number of instances electrotechnical materials at cyrogenic temperatures reveal special properties which with progress may be used in fundamentally new devices (e.g., the phenomenon of superconductivity). In the introductory chapter the properties are considered of cybernetic coolants with particular attention paid to liquid helium. The chapter "Superconductors"

USSR

TAREYEV, B. M., FILIMONOV, Yu. P., Svoystva elektrotekhnicheskikh materialov pri priogennykh temperaturakh, Mosk. In-t radiotekhn., elektron. i avtomatiki, Moscow, 66 pp, ill., 17 k.

contains basic information on superconductivity, an examination of the import- and SC I, II, and III classes, the principal forms of SC conductors, as well as various uses of superconductors (SC magnets, temperatures, rotating electrical machines, "magnetic lubricant," SC electrical transmission lines, cryotrons). The chapter "Hyperconductors" considers the possible use of extremely small ρ aluminum, beryllium, and others at cyrogenic temperatures. In the chapter "Dielectrics At Cyrogenic Temperatures" the properties are considered of cyrogenic liquids, gases, and various solid dielectrics at cyrogenic temperatures, and the special features of fulfillment of electrical insulation operating at such temperatures. In a very short chapter "Magnetic Materials At Cyrogenic Temperatures" information is presented on changes of the parameters of certain magnetic materials at extremely low temperatures. In the chapter "Thermal Properties Of Materials At Cyrogenic Temperatures" data are presented on thermoconduction, thermal capacity, and changes of geometrical dimensions (thermal shrinkage) of some forms of electrotechnical materials during deep-freezing.

2/2

USSR

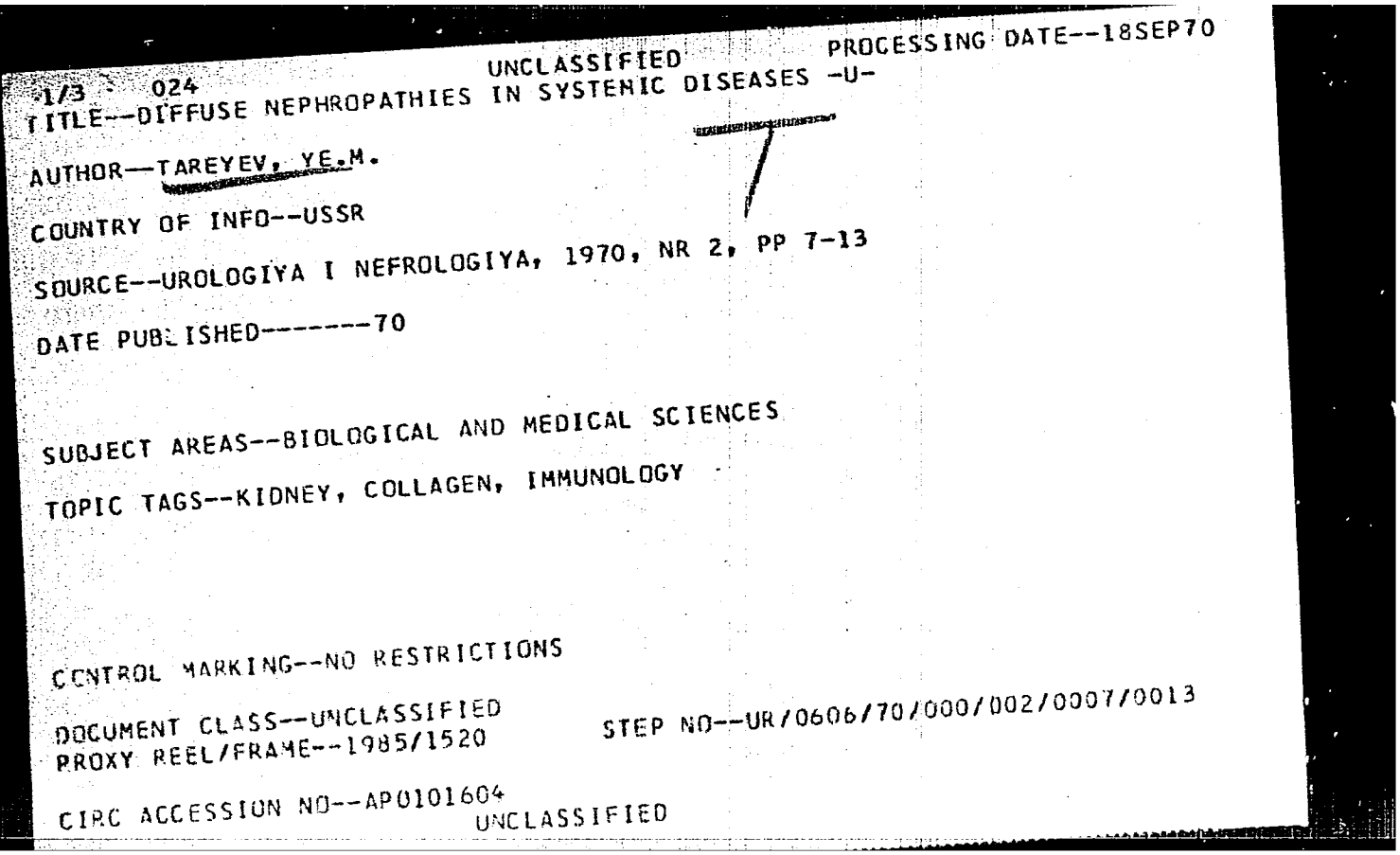
TAREYEV, Ye., First Moscow Medical Institute

"Tablets in the Pocket: Blessing or Curse?"

Moscow, Literaturnaya Gazeta, No 12, 21 Mar 73, p 13

Abstract: The author is highly critical both of laymen and of physicians for the rampant abuse of drugs. Belief in the efficacy of "miracle drugs", unwillingness to tolerate mild pain or discomfort, susceptibility to drug advertising (especially in the western countries), "right to health", and basic ignorance of the human body and of the way in which drugs work are some of the factors contributing to the high incidence of "drug disease." Physicians too must share the blame because of the haste with which many of them prescribe preparations that attack symptoms and not the underlying disease, reluctance to offend patients "demanding" drugs by refusing, administration of antibiotics, hormones, etc. in the absence of clear indications therefor, etc. One of the great problems connected with the use of drugs is the difficulty of determining individual sensitivity. The article concludes with a brief account of some of the efforts now under way in the Soviet Union to deal with the problem, e.g., multidisciplinary study of the effects of drugs and testing of so-called "indexes of metabolism of drugs" in different patients.

1/1



1/3 024 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--DIFFUSE NEPHROPATHIES IN SYSTEMIC DISEASES -U-

AUTHOR--TAREYEV, YE.M.

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIFFUSE NEPHROPATHIES IN COLLAGENOSES AND OTHER SYSTEMIC DISEASES OF THE CONNECTIVE TISSUE ARE REGARDED BY THE AUTHOR, ABOVE ALL, AS AN OBVIOUS EXAMPLE OF CHANGES HAVING OCCURRED IN PAST DECADES IN THE NOSOLOGICAL FORMS OF RENAL AFFECTIONS. IN NEPHROLOGY, AND A NUMBER OF OTHER SECTIONS OF INTERNAL MEDICINE AN IMMUNOLOGICAL ORIENTATION, IMMUNONEPHROLOGY IS MANIFESTLY TAKING AN UPPER HAND. IMMUNONEPHROLOGY FINDS AN ESPECIALLY WIDE APPLICATION IN THE DEVELOPMENT OF TEACHING ON THE PATHOGENESIS OF DIFFUSE NEPHROPATHIES IN COLLAGENOSES. THIS RENAL AFFECTION OFTEN DEVELOPS AT THE ACME OF OTHER CLINICAL MANIFESTATIONS OF SENSITIZATION. DIFFUSE NEPHROPATHIES QUITE FREQUENTLY ALSO DETERMINE AN UNFAVOURABLE OUTCOME OF THE SYSTEMIC DISEASE AS A WHOLE. TAKING AS A BASIS 20 YEAR LONG OBSERVATIONS OF MORE THAN A THOUSAND OF PATIENTS WITH COLLAGENOSES AND SYSTEMIC VASCUITS MADE AT THE THERAPEUTIC CLINIC HEADED BY THE AUTHOR GENERAL REGULARITIES UNDERLYING THE DEVELOPMENT OF RENAL AFFECTIONS IN THE GROUP OF MALADIES UNDER CONSIDERATION ARE EXPOUNDED AND MORE SPECIAL, OFTEN NEARLY PATHOGNOMONIC SYNDROMES OF THE RENAI LESION COMMON FOR INDIVIDUAL NOSOLOGICAL FORMS OF THIS GROUP ARE CHARACTERIZED. A MODEL OF SYSTEMIC ADJUVANT DISEASE WITH LUPOID CLINICAL, MORPHOLOGICAL AND IMMUNOLOGICA SYNDROMES WAS REPRODUCED AT THE AUTHOR'S LABORATORY THROUGH HYPERIMMUNIZATION OF ALBINO RATS. THE IMPORTANCE OF THE EFFECTS PRODUCED BY OTHER ENVIRONMENTAL FACTORS IN THE CLINICAL DEVELOPMENT OF COLLAGENOSES, APART FROM SENSITIZATION IS STRESSED.

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CIRC ACCESSION NO--AP0101604

ABSTRACT/EXTRACT--IN SCLERODERMIA, PARTICULARLY, THESE ARE OCCUPATIONAL EXPOSURES, COOLING, ETC, SUPERIMPOSED UPON IMMUNOGENETIC DEFICIENCIES.

USSR

UDC 62-531.4

YEFREMENKO, V.T., ZHURAKOVSKIY, T.D., MOROZOV, L.G., PERFIL'EV, L.M., RYAPOLOV, V.A., SVIRIDOV, G.S., TAREYEVA, V.N.

"Positional Tracking Drive"

USSR Author's Certificate No 262659, Filed 14/10/68, Published 19/05/70, (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Takhnika, No 12, 1970, Abstract No 12 A274P by T.R.)

Translation: A positional tracking pneumatic drive is patented, consisting of a power cylinder divided by a piston into two working cavities connected to the high-pressure channel through calibrated chokes. The power cylinder shaft contains a fluid distributor consisting of a cylindrical plunger with spiral grooves connected to the low-pressure chamber and through apertures in the shaft of the power cylinder with its working cavities. The distributor is rotated by the controller through the required angle. As the distributor rotates, a pressure difference is developed in the power cylinder cavities, acting on the piston until the holes in the shaft are moved to a symmetrical position relative to the distributor slots. The rotation of the sensor is converted to forward movement of the power cylinder shaft by the drive system. One figure.

1/1

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USSR

UDC: 621.396.6.002.72(088.8)

ZAYTSEV, V. G., TARILOV, V. N., SOLOV'YEV, N. A., POVERENNAYA, T. V.

"A Magnetic Manipulator"

USSR Author's Certificate No 263706, filed 15 Aug 68, published 15 Jun 70 (from RZh-Radiotekhnika, No 12, Dec 70, abstract No 12V320 P)

Translation: This Author's Certificate introduces a magnetic manipulator designed for grasping and moving ferromagnetic elements. The device contains a permanent magnet located inside a housing. To simplify removal of ferromagnetic elements from the manipulator, the permanent magnet is fastened to a spring-return rod connected by hinged levers to a pushbutton located on the end face of the magnet housing.

1/1

USSR

UDC 62-50

YEMEL'YANOV, S.V.; UTKIN, V.I.; TARIN, V.A.; KOSTYLEVA, N.Ye.; SHUBLADZE, A.M.; YEZEROV, V.B.; DUBROVSKIY, Ye.N.

"Theory of Systems with Variable Structure" (book)

Teoriya System s Peremennoy Strukturoy [English version above], Moscow, Nauka Press, 1970, 592 pp

Annotation: This book presents a new division in the theory of automatic control -- the theory of systems with variable structure (VSS) belonging to the class of nonlinear automatic control systems. A broad range of problems is covered. The problems of control of objects with constant and variable parameters in the mode of free motion and with external perturbing forces are studied. Considerable attention is given to solution of the problem of stability of the systems in question. Methods are suggested for controlling objects with many controlled quantities. Methods are presented for synthesis of adaptive systems with variable, simple solutions. The capabilities of methods

1/9

USSR

YEMEL'YANOV, S.V., et al., Teoriya Sistem s Peremennoy Strukturoy, Moscow, Nauka Press, 1970, 592 pp

from the theory of systems with variable structure with incomplete information on the state of the system are studied. Problems related to the application of variable structure systems in problems of filtration are analyzed; a qualitative comparison of linear optimal filters and filters with variable structure is presented.

181 figures; 137 biblio. refs.

TABLE OF CONTENTS

Foreword 6

CHAPTER I. Introduction .....
1. Problems of Automatic Regulation 9
2. The Concept of Variable Structure 31

USSR

YEMEL'YANOV, S.V., et al., Teoriya Sistem s Peremennoy Strukturoy, Moscow, Nauka Press, 1970, 592 pp

3. Specifics of Phase Spaces of Linear Dynamic Systems. Principles of Construction of Variable Structure Systems 35
4. Review of Works on Systems with Variable Structure 43

CHAPTER II. Principles of Construction of Variable Structure Systems for Control of Free Motion of Linear Objects with Constant Parameters 46
1. Simple Examples of Systems with Variable Structure. Modes in VSS 46
2. Control of Linear Object Using Actions Based on Error and Its Derivatives 64
3. Control Using Actions Based on Error Coordinate. 75
4. Control of Objects Whose Differential Equations of Motion Contain Derivatives of the Input Actions 82
5. Other Approaches to the Synthesis of VSS 100
6. Application of VSS Principles for Limitation of Coordinates of System 105
7. Construction of VSS with Delay in the Control Circuit 110

3/9

USSR

YEMEL'YANOV, S.V., et al., Teoriya Sistem s Peremennoy Strukturoy, Moscow, Nauka Press, 1970, 592 pp

4. Control of Forced Movement in Systems with Variable Structure Whose Equations Contain Derivatives of Control Action 173
5. Stability of Forced Motion in VSS 183

CHAPTER V. Control of Linear Objects with Variable Parameters 189
1. Synthesis of Second-Order VSS 190
2. Control of Objects with Variable Parameters of Arbitrary Order. 202
3. Stability of Free Motions in VSS with Variable Parameters 207
4. Control of Objects Whose Differential Equations of Motion Contain Derivatives of Input Actions 218
5. Control of Forced Motion of Objects with Variable Parameters .. 224

CHAPTER VI. Multivariate Systems with Variable Structure 241
1. Equations of Motion of System with Slipping Modes 244
2. Free Motion of Multivariate System with Variable Structure 251

5/9

USSR

YEMEL'YANOV, S.V., et al., Teoriya Sistem s Peremennoy Strukturoy, Moscow, Nauka Press, 1970, 592 pp

CHAPTER III. Stability of Free Motions in VSS for Control of Objects With Constant Parameters 115
1. Statement of Problem 115
2. Stability of Second- and Third-Order VSS 117
3. Stability of VSS of Arbitrary Order 129
4. Application of Lyapunov Method for the Study of VSS Stability.. 134
5. Stabilization of VSS by Increasing Action Coefficient Based on Error Coordinate 138

CHAPTER IV. Forced Movement in VSS with Constant Parameters 146
1. Analysis of Forced Movements in VSS. Synthesis of Control Rule in Second-Order System 147
2. Synthesis of Control Rule in VSS 156
3. Principles of Design of Combined Systems with Variable Structure 162

USSR

YEMEL'YANOV, S.V., et al., Teoriya Sistem s Peremennoy Strukturoy, Moscow, Nauka Press, 1970, 592 pp

3. Multiply Connected System with Variable Structure 262
4. Forced Motion. Systems with Constant Parameters 272
5. Forced Motion. Systems with Variable Parameters 290
6. Quasi-Invariant Motion in Multivariate Systems with Variable Structure 300
7. Problem of Limitation of Coordinates in Multivariate VSS 313

CHAPTER VII. Adaptive Systems with Variable Structure 323
1. Principle of Construction of Adaptive Variable Structure Systems (AVSS) Using Information on Development of Slipping Mode 325
2. AVSS with Adaptation Based on Parameter of Slipping Mode 339
3. AVSS with Reduced Adaptation Time 373

CHAPTER VIII. Control of Objects with Incomplete Information on System Status 385

6/9

USSR

YEMEL'YANOV, S.V., et al., Teoriya Sistem s Peremennoy Strukturoy, Moscow, Nauka Press, 1970, 592 pp

1. Formulation and Discussion of Problem 385
2. Structural Conversions of VSS 387
3. Study of Second-Order VSS with Linear Phase-Shifting Filter in Commutating Device Control Circuit 390
4. Use of Continuous Differences in Control Rule of Commutating Device of Second-Order VSS 407
5. Movement of VSS Using Filter in Commutating Device Circuit. General Case 412
6. Commutated Filters in Control Circuit of Switching Device of VSS Described by Second-Order Equations 430
7. Commutated Filters in Control Circuit of Switching Device of VSS Described by Equations of Arbitrary Order 438

CHAPTER IX. Use of VSS Methods for Production of Information on Status of Controlled Process 449

7/9

USSR

YEMEL'YANOV, S.V., et al., Teoriya Sistem s Peremennoy Strukturoy, Moscow, Nauka Press, 1970, 592 pp

1. Principle of Construction of Differentiating Devices 449
2. Filter with Variable Structure as Analog of Forcing Link 453
3. Application of Additional Feedback for Expansion of Area of Slipping Mode 461
4. Differentiating Devices with Low Level of High-Frequency Component at Output 474

CHAPTER X. Application of VSS Principles in Filtration Problems 496
1. Certain Information from Theory of Optimal Linear Filtration .. 497
2. Solution of Problem of Filtration of Gaussian Stable Processes by VSS Methods 512
3. Filters with First- and Second-Order Variable Structure and Their Comparison with Optimal and Relay Filters 528
4. Filtration of Unstable Process by Variable Structure Filter 544

8/9

USSR

YEMEL'YANOV, S.V., et al., Teoriya Sistem s Peremennoy Strukturoy, Moscow, Nauka Press, 1970, 592 pp

CHAPTER XI. Influence of Nonlinearity of Object and Switching Device on VSS Dynamics 561
1. Formulation and Discussion of Problem 561
2. Limitation of Coordinates of System and Control Action 562
3. Influence of Non-Ideal Nature of Switching Device on VSS Dynamics 568
4. Use of VSS to Increase Smoothness in Operation of Tracking System at Low Speeds 575

Bibliography 583
Index 591

9/9

USSR

UDC: 8.74

TARKASHVILI, Ts. T., DZIGAVA, B. N.

"Equalization by the Method of Least Squares"

V sb. Elektron. i ionnyye protsessy v tverd. telakh (Electron and Ion Processes in Solids--collection of works), No 4, Tbilisi, "Metsniyereba", 1971, pp 256-265 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V566)

[no abstract]

1/1

USSR

UDC: 8.74

TARKASHVILI, Ts. T., MENABDE, M. A.

"An Algorithm for Studying the Dynamics of a Crystal With Defects by the Vignard Method"

V sb. Elektron. i ionnyye protsessy v tverd. telakh (Electron and Ion Processes in Solids--collection of works), No 4, Tbilisi, "Metsniyereba", 1971, pp 248-255 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V567)

[no abstract]

1/1

USSR

UDC 534.2

GENKIN, M. D., TARKHANOV, G. V., CHISTYAKOV, A. G.

"Experimental Studies of Transverse and Torsional Oscillations of High Beams"

V sb. Dinamika i akustika mashin (Machine Dynamics and Acoustics -- Collection of Works), Moscow, "Nauka", 1971, pp 35-40 (from RZh-Fizika, No 3, Mar 72, Abstract No 3Zh478)

Translation: The results of an experimental study of the shapes and frequencies of the natural vibrations of two welded thin-walled beams of I-beam shape with a ratio of length to height of 5.8 and 3.4 are presented for the frequency range 0-1000 Hz. The calculations made considering the shift and inertia of rotation of the transverse cross sections are in good agreement with experiment for the first three forms of the oscillations. Authors abstract.

1/1